

College of Applied Sciences „Lavoslav Ružička“ in Vukovar



**DEPARTMENT
OF HEALTH STUDIES**



ISO 9001:2008/ISO 29990 Certified

The Professional Undergraduate Study of Physiotherapy

Syllabus



Last updated: September 2019

HEALTH DEPARTMENT

The Professional Undergraduate Study of Physiotherapy

PROGRAM TITLE: Study of Physiotherapy

TYPE OF PROGRAM: Undergraduate Professional Study

DURATION OF PROGRAM: 3 years /6 semesters

TOTAL NUMBER OF ECTS: 180

SCIENTIFIC AREA: Health

SCIENTIFIC FIELD: Physiotherapy

ABOUT US

Physiotherapy is a branch of medicine that is extremely demanding and complex in its structure. It includes the good knowledge of anatomy, physiology, kinesiology, biomechanics, etc. The complexity of study of physiotherapy results from demands that are set before physiotherapists these days. The future of physiotherapy lies in the specialists who will be capable of quality work in prevention, but also to independently diagnose and lead the process of rehabilitation when the situation requires. The Study of Physiotherapy is adapted to demands of modern physiotherapy.

Competences which students acquire after having completed study

The Study of Physiotherapy is created to cover a wider range of knowledge and skills that are necessary for physiotherapists today in order to successfully conduct programs of both prevention and rehabilitation. For this reason, a special attention is given to the practical training and classes that students directly do with users. The study educates professionals for participating in a team work through following activities: estimating the user's condition and the need for a physiotherapeutic treatment, conducting kinesis-metrical and other measurements for diagnosing the functions of a loco-motor system, planning and programming the physiotherapeutic procedures, evaluation a treatment effect, participating in education of physiotherapists and participating in research in the field of physical therapy.

Vocations and jobs for which the study qualifies for

Students are qualified to perform work in sports clubs, health care and rehabilitation institutions, recreation centres and places for health tourism.

Length of study

The study lasts six semesters and finishes with a defence of final written paper. The study comprises teaching content to the value of 180 ECTS credits.

Professional title

Upon completion of a professional study, a professional bachelor's degree in physiotherapy is awarded (Baccalareus/Baccalaurea) – bacc.physioth.

ACADEMIC CALENDAR 2018-2019
The Professional Undergraduate Study

Academic year: 1st October 2018 – 30th September 2019

WINTER SEMESTER

Lectures	1 st October 2018 – 1 st February 2019
Winter Exams	4 th February 2019 – 2 nd March 2019
Additional exams	19 th November 2018 – 1 st December 2018
Christmas' holiday	24 th December 2018 – 6 th January 2019
Other holidays	8 th October 2018; 1 st November 2018;

SUMMER SEMESTER

Lectures	4 th March 2019– 14 th June 2019
Summer Exams	17 th June – 13 th July 2019
Autumn Exams	2 nd September 2019 – 27 th September 2019
Additional exams	23 th April - 7 th May 2019
Dean's exam period	30 th September 2019
Easter holidays	21 st April – 22 nd April 2018
Other holidays	1 st May 2019; 20 th , 22 nd , 25 th June 2019; 5 th , 15 th August 2019;

Summer vacation: end of July 2018 – end of August 2018

Final signed learning agreement by middle of February 2019.

Please note that faculties are allowed to change/adjust the academic calendar according to their internal processes!

So consult also the faculty web page for more detailed information on this.

National Holidays

January 01	New Year's Day
January 06	Three Kings Day
April 21 and 22	Easter Sunday and Monday
May 01	Labour Day
June 20	Corpus Christi
June 22	Anti-Fascist Struggle Day
June 25	Day of Croatia Statehood
August 05	Victory and Homeland Thanksgiving Day
August 15	Assumption of Mary
October 08	Independence Day
November 01	All Saint's Day
December 25 -26	Christmas Day and St. Stephen's Day

CONTACTS

HEAD OF THE DEPARTMENT – ECTS KOORDINATOR	Slavica Janković, Phd. Lecturer	slavica.jankovic@vevu.hr
MENTOR FOR INCOMING STUDENTS FOR TRAINEESHIP	Vesna Šeper, Master of sports Medicine and Physiotherapy Lecturer	vesna.seper@vevu.hr

ADDRESS:

Županijska 50,
32000 Vukovar,
Croatia
Web: www.vevu.hr

ACADEMIC STAFF

NAME	ACADEMIC TITLE	E-MAIL ADDRESS	CONSULTATION HOURS
Gordana Bujišić	Assistant professor	gbujisic@vevu.hr	After lectures
Nebojša Nešić	senior lecturer	nnesic@vevu.hr	Monday 10-11 & 18-19
Dražen Pejić	senior lecturer	dpejic@vevu.hr	Friday 11-12 a.m.
Borislav Marušić	senior lecturer	bmarusic@vevu.hr	
Vesna Brumnić	lecturer	vbrumnic@vevu.hr	Arrangement through e-mail
Erna Davidović Cvetko	lecturer	erna@vevu.hr	Arrangement through e-mail
Slavica Janković	lecturer	sjankovic@vevu.hr	Wednesday 9-10 Thursday 15-16
Stjepan Jelica	lecturer	sjelica@vevu.hr	Arrangement through e-mail
Vesna Šeper	lecturer	vseper@vevu.hr	Monday at 10 a.m.
Iva Šklempe Kokić	lecturer	iskokic@vevu.hr	Monday 16-17 Tuesday 10-11
Mateja Znika	lecturer	mznika@vevu.hr	Wednesday 17-18 Thursday 12.30-13.30

Consultation prior to the lectures or in agreement with the professor.

COURSE SYLLABUS

Implemented as: Full-time study and Part-time study

Course list by semesters

First year

Course title	Code	Semester	ECTS
Psychological human development	F107	1	2
Clinical kinesiology	F108	1	8.5
Introduction in physiotherapy	F109	1	2
Basics of motoric transformations	F110	1	6
Foreign language / German	F112	1	2
Physiotherapeutic estimation	F204	2	6
Clinical kinesiology	F205	2	8.5
Health psychology	F206	2	2
Basic of motor transformations	F207	2	6
Clinical training I	F208	2	3
Elective courses			
Gerontology	F209	2	3

Second year

Course title	Code	Semester	ECTS
Physiotherapy in orthopaedics	F301	3	11
Physical factors in therapy	F302	3	4.5
Physiotherapeutic skills I - basics of physiotherapeutic exercise and manual therapy	F303	3	7
Clinical medicine III	F306	3	6.5
Physiotherapy in traumatology	F401	4	11
Physiotherapy II	F402	4	4
Physiotherapeutic skills I - basics of rehabilitation with movement	F403	4	4
Clinical medicine III	F406	4	6.5

Clinical training II	F407	4	5
Elective courses			
Basics of occupational therapy	F409	4	3
Basic of motor transformations II	F410	4	4
Palliative care	F411	4	2

Third year

Course title	Code	Semester	ECTS
Physiotherapy in rheumatology	F501	5	11
Physiotherapy III	F502	5	8
Physiotherapeutic skills II	F503	5	9
Research methods in physiotherapy	F504	5	4
Special topics in physiotherapy I	F505	5	6
Clinical training III	F506	5	10
Physiotherapy III	F601	6	8
Physiotherapeutic skills II	F602	6	9
Special topics in physiotherapy I	F603	6	6
Research methods in physiotherapy	F604	6	4
Clinical training IV with final paper	F606	6	3
Elective courses			
Sport for disabled people	F613	6	3
Therapeutic horse-riding	F614	6	3
Final paper	T608	6	6

CURRENTLY IS AVAILBLE ONLY CONSULTATIVE TEACHING FOR CLASSES IN ENGLISH

STUDY PROGRAMMES

1. PHYSIOLOGY WITH PATHOPHYSIOLOGY

Course content:	<p>Physiology, L-30, P-15; Metabolic processes of the locomotor system with special reference to muscle activity. Relationship between nervous systems function and muscle activity. Cardiovascular system and its adaptation to physical activity. Respiratory system and its adaptation to physical activity. Digestive system, renal system, endocrine system. Physiological bases and reactions: fatigue, overexertion, adaptation to heat and cold. Assessment in kinesiological physiology. Equipment for monitoring and adjusting exercise intensity. Dynamometry celerimetry, assessment of flexibility, spirometry, minute respiratory volume, assessment of cardiovascular system function, measurement of oxygen uptake, assessment of energy consumption.</p> <p>Pathophysiology, L-15, P-15; Thanatology, regressive process; progressive process, degeneration, necrosis, regeneration, pigment metabolism disorder; blood circulation disorders; inflammations; microbiological inflammations; neoplasms; immunology and transplantation; body fluids disorders; metabolism and genetics. Foundation of immunological processes. Inflammation and cell regeneration.</p> <p>After the course student will acquire knowledge necessary for the following and acquisition of further advanced courses and clinical sciences.</p>
General and specific competencies:	<p>After the course student will be able to: recognize and differentiate between physiological functions of healthy organism systems, notice the difference between organism functions after physical activity, recognize and evaluate organism's physiological reactions to fatigue, overexertion and other changed physical conditions, actively participate in the assessment of organism's physiological functions, plan the use of equipment for monitoring and adjusting exercise intensity, notice underlying pathological processes in the human body and recognize its relationship with special pathology forms.</p>
Literature:	<p>Compulsory literature</p> <p>Guyton AC, Hall JE: Medical physiology. Zagreb: Medicinska naklada, 1999.</p> <p>Heimer, S., Matkovic, B.: Kinesiological physiology. In: Manual for sports coaches. Zagreb: Faculty for physical culture University of Zagreb, 1997.</p> <p>Heimer, S. et al.: Practicum of kinesiological physiology, Zagreb: Faculty for physical culture University of Zagreb, 1997.</p> <p>Recommended literature</p> <p>Jukic, S.: Pathology. Zagreb: JUmena, 1989.</p>
ECTS	<p>6 ECTS points represent the total academic course load consisting of 168 hours which include lecture attendance as prescribed by the study programme, preparation and taking part in practical training as well as satisfactory preparation and presentation of gained knowledge and skills through midterm, practical, written and oral exams.</p>
Exam:	<p>Midterm exams, practical, written and oral exam.</p>
Quality control:	<p>Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff.</p>

Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content.

Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented and other factors are assessed.

2. PHYSIOTHERAPY I (Physiotherapy in orthopaedics, Physiotherapy in traumatology and Physiotherapy in rheumatology)

Physiotherapy in orthopaedics, physiotherapy assessment: special tests and measuring instruments for diagnostics of the musculoskeletal system.

Physiotherapy process for congenital and acquired diseases of spine joints, thoracic cage, shoulder girdle, forearm and hand, hip joint, sacroiliac joint dysfunction and knee and foot joints. Physiotherapy process for individuals with congenital and acquired diseases of joints such as disorders of vitamins metabolism, juvenile osteochondritis, bone inflammations, fractures, bone tumours as well as for individuals with congenital and acquired diseases of connective tissues and muscles. Physiotherapy process for osteosynthesis and complications of osteosynthesis. Characteristics and differences in planning of physiotherapy process for operative and non-operative treatment of orthopaedic diseases. Basic principles of implementation of various physiotherapy concepts in orthopaedics.

Application of prostheses and orthoses for congenital and acquired orthopaedic diseases and application of electronic devices and appliances in daily activities. Role of physiotherapists in the screening for systemic and other orthopaedic diseases and the role of physiotherapists in patient education.

Course content:

Physiotherapy in traumatology; physiotherapy assessment; special tests and measuring instruments for diagnostics of musculoskeletal system disorders. Physiotherapy process for individuals with musculoskeletal system trauma including fractures of forearm, wrist and hand, arm and shoulder, spine, pelvis and hip, thigh, leg and foot. Physiotherapy process for sprains and dislocations, and types of immobilisation. Physiotherapy process for joint instability: shoulder, knee and ankle joints; problems and consequences of joint instability. Physiotherapy process for individuals with muscle and ligament ruptures. Application of orthoses and prostheses for amputees, prosthetics of lower and upper extremities: choice of prosthesis, preparation for prosthesis and application of prosthesis.

Physiotherapy in sports medicine; physiotherapy in rheumatology; Physiotherapy assessment for individuals with ankylosing spondylitis, rheumatoid arthritis, juvenile rheumatoid arthritis, osteoarthritis, psoriatic arthritis, reactive and infective arthritis, bursitis, tendinitis; for individuals with scleroderma and fibromyalgia, metabolic rheumatoid diseases: gout, osteoporosis. Role of physiotherapists in the education of rheumatology patients. Characteristics of biomechanical disorders and application of orthoses and other adaptive and protective devices in overcoming daily activities in rheumatology patients.

General and specific

After the course student will acquire knowledge necessary for the planning and implementation of physiotherapy assessment in the fields of orthopaedics, surgery and traumatology, sports injuries and rheumatology specific.

competencies: After the course student will be able to: recognize and differentiate normal movement and normal human function from pathological movement patterns by determining specific physiotherapy status of the patient, name and define various forms of injuries according to the basic mechanism of their occurrence, recognize associated injuries, differentiate acute from chronic states, connect specific diagnostic status with appropriate physiotherapy skills and concepts, critically analyse and discuss the results of implemented skills, plan individual physiotherapy processes in the fields of orthopaedics, traumatology, sports and rheumatology, actively participate in teamwork.

Compulsory literature

Filipovic, V.: Physiotherapy in musculoskeletal disorders – instructional texts. Zagreb: School of Health Studies, 1998.

Pecina, M. et al: Sports Medicine. Zagreb.: Medicinska naklada, 2003.

Filipovic, V., Klacic, I.: Importance of proprioception for normal shoulder function. In: Proceedings Croatian Society of Physiotherapists. Zagreb: CSPT, 2001.

Jakus, L.: Physiotherapy in rheumatology – instructional texts. Zagreb: School of Health Studies, 1999.

Jelic, M.: Orthotic. In: Pecina, M. Orthopedics. Zagreb: Naprijed, 1996.

Recommended literature

Pecina, M.: Overuse syndroms of locomotion system. Zagreb: Globus, 1992.

Literature: Filipovic, V.: Biomechanical analysis of locomotion and postural characteristics in idiopathic adolescent scoliosis – master's thesis. Zagreb: Kinesiology, University of Zagreb, 2003.

Nikolic, V., Hudec, M. (1998) Principles and elements of biomechanics. Skolska knjiga, Zagreb.

Reid, D. C.: Sports injury; assessment and rehabilitation. London: Churchill Livingstone, 1992.

Durrigl, T., Rheumatology. Medical University, Zagreb. 1997.

Adler, S., Becker, S., Buck, D.: PNF in practice. Berlin: Springer-Verlag, 1993.

Grisogono, V.: Knee health., London: John Murray, 1992.

Grisogono, V.: Running fitness and injuries. London: John Murray, 1994.

Grisogono, V.: The back problems and prevention. London: John Murray, 1996.

Grisogono, V.: Sports injuries. London.: John Murray, 1996.

Peterson, L., Renstrom, P.: Sports injuries, their prevention and treatment. London: Martin Denitz, 1986.

	Magee, D. J.: Orthopedic physical assessment. London: W. B. Saunders Company, 1992.
ECTS	11 ECTS points represent the total academic course load consisting of 308 hours, which include lecture attendance as prescribed by the study programme, seminars preparation and attendance as well as satisfactory preparation and presentation of gained knowledge and skills through midterm, written and oral exams.
Exam:	Midterm exams, written and oral exam.
Quality control:	Quality of education is assessed via an anonymous questionnaire on the quality of, course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

3. PHYSIOTHERAPY II

	Physiotherapy in cardiology and pulmonology: physiotherapy assessment for individuals with cardiovascular and respiratory disorders and diseases.
Course content:	Process of physiotherapy for individuals with acute cardiac conditions, for individuals with consequences of ischaemic heart disease and chronic diseases of the cardiovascular system. Process of physiotherapy in the intensive care unit and after cardiac surgery: implantation of heart electrostimulation, bypass surgery and after heart transplantation. Physiotherapy process for obstructive lung diseases: chronic obstructive pulmonary disease, asthma, exudative pleuritic, cystic fibrosis; and for individuals with restrictive pulmonary diseases: fibrosis and atelectasis.
General and specific competencies:	Process of physiotherapy for individuals with respiratory system dysfunction which is a consequence of neuromuscular disease. Physiotherapy in oncology; physiotherapy process for individuals diagnosed and treated for tumours of head and neck. Physiotherapy process for individuals after surgical treatment of breast tumours. Physiotherapy process for individuals diagnosed and treated for tumours of the digestive and reproductive system. Physiotherapy process for childhood tumours. After the course student will acquire knowledge for the planning and implementation of physiotherapy in individuals with cardiovascular and respiratory system disorders and for the planning and implementation of physiotherapy in individuals with treated tumours and with tumours. After the course student will be able to: recognize and critically evaluate specifics of various models of physiotherapy in individuals with cardiovascular and respiratory system disorders and diseases, recognize and critically evaluate specifics of physiotherapy in individuals with tumours and with treated tumours, implement physiotherapy interventions in the prevention and treatment of cardiovascular and respiratory system disorders, implement physiotherapy intervention in the prevention and treatment of consequences of tumour diseases, assess and critically analyse

effects of physiotherapy in individuals with tumours and with treated tumours, actively participate in team work.

Compulsory literature

Rehabilitation of patients with ischemic heart disease. Proceedings book, 2nd Symposia of the Society for respiratory and cardiovascular physiotherapy, Croatian Society of Physiotherapists; Zagreb, 2001.

Kraljevic, A: Physiotherapy in cardiology – teaching manual for internal use, Zagreb School of Health Studies, Zagreb, 2002.

Kraljevic, A, Puljevic, D: Importance of non-invasive measurement of basic cardiovascular indicators in physiotherapy. 1st Thematic conference of Croatian Association of Physiotherapists – Measurement and documentation in physiotherapy. Fizioterapija, year 3 Suppl 2, 1999; 147-151.

Rozman, A., Crc. M.: Physiotherapy in pulmonology – instruction texts Zagreb: School of Health Studies, 2003.

Crc, M.: Physiotherapy in pulmonology. U. G. Grozdek: Basics of physiotherapy – chosen chapters. Zagreb: School of Health Studies, 2001.

Literature: Vrcic-Kiseljak, Lj.: Physiotherapy in oncology – instruction texts. Zagreb: School of Health Studies, 1998.

Sabol, R.: Rehabilitation in patient with cancer, in: Turic, M., Kolaric, K.,

Eljuga, D.: Clinical oncology, page 927-940. Zagreb: Nakladni zavod Globus, 1996.

Recommended literature

Markov-Glavas, D.: Quality of life in patients treated for larynx cancer – master's thesis. Zagreb: The University of Zagreb School of Medicine, 1998.

Frownfelter, D., Dean, E.: Principles and practice of cardiopulmonary physical therapy 3rd edition, St. Louis: Mosby – year book Inc 1996.

Pryor, J. A., Webber, B. A.: Physiotherapy for respiratory and cardiac problems, 2nd edition. Edinburgh: Churchill Livingstone, 1998. rpic, I.: Surgery for medics, Zagreb: Skolska knjiga, 1995.

Turic, M., Kolaric, K., Eljuga, D., clinical oncology. Zagreb: Nakladni zavod Globus, 1996.

ECTS 4 ECTS points represent the total academic course load consisting of 112 hours, which include lecture attendance as prescribed by the study programme, seminars preparation and attendance as well as satisfactory preparation and presentation of gained knowledge and skills through midterm, written and oral exams.

Exam: Midterm exams, written and oral exam.

Quality control: Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff.

Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

4. PHYSIOTHERAPY III

Course content:

Physiotherapy in neurology: Physiotherapy in neurological rehabilitation. Neurophysiological bases in neurological physiotherapy, hierarchical and parallel organisation of the central nervous system; central postural control mechanism, characteristics of normal movement, normal automatic postural reactions, balance reactions, voluntary and automated movements, functional movement. Analysis of the components of normal movement and motor activity: lying, sitting and standing postural set and transfers between postural sets and complex functional activities. Functional levels of individuals according to ICF classification (WHO, 2001). Basic principles of implementation of physiotherapy concepts in adults with central disorders; examination, analysis, treatment and evaluation. Specifics of the examination and treatment of persons with hemiplegia or hemiparesis, and persons with craniocerebral injuries, problems of spasticity and associated reactions, compensations, specific of treatment for Parkinson's disease patients and patients with multiple sclerosis, specific of physiotherapy for spinal injuries patients, physiotherapy in persons with peripheral lesions, physiotherapy in persons with neuromuscular diseases.

Physiotherapy in psychiatry: Physiotherapy process in neurotic disorders, affective disorders, schizophrenia, posttraumatic syndrome, manic syndrome, depressive syndrome, anorexia nervosa and in persons with psychosomatic disorders.

Physiotherapy in geriatrics: Specifics of physiotherapy in geriatrics and special aspects of group physiotherapy.

General and specific competencies:

After the course student will acquire knowledge and basic skills necessary for the planning and implementation of physiotherapy in the fields of neurology, psychiatry and geriatrics. After the course student will be able to: define and recognize normal movement, recognize problems in a person's functioning by analysing movement components in order to obtain adequate functional levels according to ICF classification (WHO, 2001.), evaluate and apply basic knowledge and skills of facilitation and proprioceptive stimulation of normal movement in persons with need for adequate functional level, understand, describe, plan and implement certain physiotherapy interventions in persons with impairments, diseases and injuries of the central and peripheral nervous system, and in persons with neuromuscular diseases, recognize specific of various physiotherapy concepts and models in adults with neurological impairments, diseases and injuries, describe forms of behaviour and the effect of behaviour on movement and function, plan and implement physiotherapy interventions in persons with psychiatric disorders, plan and implement physiotherapy interventions according to specific of geriatric population, encourage and plan optimal body, mental and social independence implementing physiotherapy interventions in elderly people, recognize the roles and tasks of physiotherapists within health teams dealing with neurological, psychiatric and geriatric problems, demonstrate basic knowledge and skills in team cooperation, actively participate in teamwork.

Compulsory literature

Judas., M., Kostovic, I.: Fundamentals of neuroscience. Zagreb: MD; 1997 (selected chapters)

Grozdek, G., Macek, Z.: Fundamentals of Bobath concept – teaching materials for internal use for 2nd year students of physiotherapy. Zagreb: Medical School University of Zagreb; 1995

Grozdek, G., Macek, M.: Effects of neurofacilitation therapy on daily motoric activity changes in persons with bad brain injuries. Fizioterapija 3 (1); 23 – 33

Macek, Z, Grozdek G: Measurement and documentation in neurological physiotherapy. 1. Thematic Conference. Fizioterapija 3 Suppl 2: 123-125

Literature: Edwards, S.: Neurologica Physiotherapy: A Problem – Solving Approach. London: Churcill Livingstone; 2000 (selected chapters).

Recommended literature

Davies, P.M.: Right in the Middle. Berlin: Springer – Verlag; 1990

Davies, P. M.: Starting Again: Early Rehabilitation After Traumatic Brain Injury or Other Severe Brain Lesions. London: Springer – Verlag; 1994

Klein – Vogelbach, S.: Functional Kinetics Observing, Analyzing and Teaching Human Movement: Berlin: Springer – Verlag; 1990

Kidd, G., Lawes, N., Musa, I.: Understanding neuromuscular Plasticity – a basis for clinical rehabilitation. London: Edward Arnold; 1992

Peath Rohlfs, B.: Efarungen mit dem Bobath – Konzept: Grundlagen, Behandlung, Fallbeispiele. Stuttgart; New York: Thieme; 1999

ECTS 8 ECTS points represent the total academic course load consisting of 224 hours, which include lecture attendance as prescribed by the study programme, seminars preparation and attendance, taking part in practical training as well as satisfactory preparation and presentation of gained knowledge and skills through midterm, practical, written and oral exams.

Exam: Midterm exams, practical, written and oral exam.

Quality control: Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed.

Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

5. PHYSIOTHERAPEUTIC ASSESSMENT

Course content:	<p>The purpose of assessment in physiotherapy. Measurements and measurement theory; reliability, validity and objectivity. Subjective examination, anamnesis, observation, palpation, measurements and tests in physiotherapy. Anthropometric measurements, aerobic capacity and endurance measurements, assessment of integrity and mobility of joints, measurement of movement range; muscle strength measurement – manual muscle test, dynamometry, isometric and isokinetic strength; posture assessment; pain assessment; assessment of skin integrity, assessment of reflex activity; assessment of daily activities and instrumental daily activities; gait, locomotion and balance assessment; ergonomic and biomechanical assessment; assessment of the use of aids and adaptive equipment; specific physiotherapeutic methods and systems of evaluation. Documentation and interpretation of assessment results, and the use of results in planning of physiotherapy intervention.</p>
General and specific competencies:	<p>After the course student will acquire basic knowledge and skills necessary for the conduction of physiotherapy assessment and determining the need for physiotherapy treatment. After the course student will acquire theoretical and practical knowledge about basic assessment methods, documentation and interpretation of results and forming assessment conclusion within the physiotherapy process. After the course student will acquire knowledge necessary for the following and acquisition of more specialised courses.</p> <p>After the course student will be able to: understand the importance of assessment like base for planning of physiotherapy procedures, understand, describe, analyse and compare basic assessment methods in physiotherapy, demonstrate basic practical skills for subjective and objective evaluation in physiotherapy, use of different systems of documentation and interpretation of results, form assessment conclusions, and use them in planning of physiotherapy intervention, actively participate in holistic team assessment.</p>
Literature:	<p>Compulsory literature</p> <ol style="list-style-type: none">1. Filipovic, V., Klaic, I., Jakus, L.: Evaluation list for therapeutic procedures assessment. Zagreb: School of Health Studies, 1997.2. Misigoj-Durakovic, M., Matkovic, B., Medved, R.: Morphological anthropometry in sports. Zagreb: Faculty for Physical Culture, 1995.3. Jakus, L., Klaic, I.: Physiotherapy Assessment – teaching materials. Zagreb: School of Health Studies, 2003. <p>Recommended literature</p> <ol style="list-style-type: none">1. Amundsen, L. R.: Muscle Strength Testing – Instrumented and Non Instrumented Systems. New York: Churchill Livingstone, 1990.

	<p>2. Hislop, H. J., Montgomery, J.: Daniel's and Worthingham's Muscle Testing – Techniques of Manual Examination. Philadelphia: W. B. Saunders Company, 1995.</p> <p>3. Klein Vogelbach, S.: Functional Kinetics. Berlin: Springer – Verlag, 1990.</p> <p>4. Magee, D. J.: Orthopedic Physical Assessment. Philadelphia: W. B. Saunders Company; 1992.</p> <p>5. Norkin, C. C., White, D. J.: Measurement of Joint Motion – A Guide to Goniometry. Philadelphia: F. A. Davis Company, 1995.</p> <p>6. Wadsworth, C. D.: Manual examination and treatment of the spine and extremities. Baltimore: Williams and Wilkins, 1998.</p>
ECTS	<p>6 ECTS points represent the total academic course load consisting of 168 hours, which include lecture attendance as prescribed by the study programme, seminars preparation and attendance, taking part in practical training as well as satisfactory preparation and presentation of gained knowledge and skills through midterm, practical and oral exams.</p>
Exam:	<p>Midterm exams, practical, written and oral exam.</p>
Quality control:	<p>Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed.</p> <p>Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.</p>

6. PHYSIOTHERAPY SKILLS I -- basics of physiotherapeutic exercise and manual therapy/ basics of rehabilitation with movement

Course content:	<p>Principles and procedures of therapeutic exercise application in the process of physiotherapy: activities for strength range of motion, endurance, coordination, motor control and motor learning, motor development and motor proficiency, posture and respiration improvement.</p> <p>Implementation of activities of aerobic endurance by use of ergometer, stepper, weights, pulley, hydraulics, elastic bands, robotics, mechanical or electromechanical devices; strength improvement through active movement, active assisted movement and movement against resistance; flexibility exercises; exercises with therapeutic ball; exercises in water; breathing strategies; gait,</p>
-----------------	---

locomotion and balance training; balance and coordination training; ergonomics training.

Principles and procedures of implementation of manual therapy techniques including mobilisations and manipulations with the purpose of pain reduction, range of motion improvement and reduction or removal of soft tissue oedema, inflammation or impairments; relaxation; improvement of contractile and non contractile tissue elasticity; improvement of pulmonary function.

Implementation of manual therapy techniques including therapeutic massage, connective tissue massage, manual lymph drainage, acupressure massage, manual traction, joint mobilisation and manipulation, soft tissue mobilisation and manipulation.

Principles and procedures of respiratory therapy including breathing exercises, cough mechanism, secretion mobilisation and transport, drainage positions, relaxation methods, thorax mobilisation, respiratory training and inhalation therapy.

Principles and procedures of functional training, self-care and household care in the scope of physiotherapy practice including daily activities and daily instrumental activities. Principles and procedures of implementation of assistive devices, orthoses, adaptive, protective and supportive devices and equipment.

After the course student will have knowledge and skills necessary for the planning and programming of physiotherapy process and knowledge of how to choose and implement physiotherapy procedures in accordance with the individual's needs.

After the course student will have knowledge and skills necessary for further advanced courses.

General and
specific
competencies:

After the course student will be able to recognize and critically evaluate the efficacy of the implementation of therapeutic exercises, manual therapy techniques, respiratory therapy, functional training and application of devices, orthoses, adaptive, protective and supportive devices and equipment in the treatment, implementation and evaluation of the effects of therapeutic exercises, manual therapy techniques, respiratory therapy, functional training and application of devices, orthoses, adaptive, protective and supportive devices and equipment in the process of treatment.

Compulsory literature

Grozdek, G et al: Principles of medical massage. Zagreb: Croatian Association of Physiotherapists, 1998.

Literature:

Jakus, L et al: Therapeutic exercises – teaching materials. Zagreb: School of Health Studies, 2004.

Jakus, L et al: Principles and procedures of manual therapy – teaching materials. Zagreb: School of Health Studies, 2004.

Jakus, L et al: Application of devices, orthoses, adaptive, protective and supportive devices and equipment – teaching materials. Zagreb: School of Health Studies, 2004.

Crc, M et al: Principles and procedures of respiratory therapy – teaching materials. Zagreb: School of Health Studies, 2004.

Recommended literature

Gormley, J.,Hussey, J.: Exercise therapy in prevention and treatment of disease, Blackwell science ltd, 2004.

Hollis, M., Fletcher – Cook, P.: Practical exercise therapy, Blackwell science ltd, 1999.

Bates, A., Hanson, N.: Aquatic exercise therapy, Elsevier, 1996.

Makofsky, H. W.; Spinal manual therapy an introduction to soft tissue mobilization, spinal manipulation, therapeutics and home exercise, Slack incorporated, 2003.

Sullivan, P. E., Markos, P.: Clinical decision making in therapeutic exercise, Pearson Professional education, 1996.

Richardson, J.: Therapeutic exercise for spinal segmental stabilization in lower back pain scientific basis and practical tehniques, Elsevier, 1998.

Hall, C. M. Therapeutic exercise moving toward function, Lippincott Williams and Wilkins, 1998.

Creager, C. C.: Therapeutic exercise using resestive bands, Executive physical therapy, 1998.

Creager, C. C.: Therapeutic exercise using foam rollers, Executive physical therapy, 1996.

Creager, C. C.: Therapeutic exercise using Swiss ball, Executive physical therapy, 1994.

ECTS

11 ECTS points represent the total academic course load consisting of 350 hours which include lecture attendance as prescribed by the study programme, preparing and taking part in practical training as well as satisfactory preparation and presentation of gained knowledge and skills through midterm, practical and oral exams.

Exam:

Midterm exams, practical and oral exam.

Quality control:

Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed.

Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

7. PHYSIOTHERAPY SKILLS II

Course content:

Principles and procedures of neurodevelopmental treatment application – the Bobath paediatric concept. Principles and procedures of the Vojta concept application. Principles and procedures of application of the Bobath concept for

adult population with central nervous system impairment. Principles and procedures of the PNF concept application according to M. Knott.

After the course student will gain knowledge and skills necessary for the planning and programming of physiotherapy process and knowledge of how to choose and implement specific physiotherapy concepts according to individual needs.

General and
specific
competencies:

After the course student will be able to recognise the efficacy of neurodevelopmental treatment implementation – the Bobath paediatric concept, the Vojta concept, the Bobath concept for adults with central nervous system impairment and the PNF concept according to M Knott, to recognise specific goals which are accomplished through neurodevelopmental treatment – the Bobath paediatric concept, the Vojta concept, the Bobath concept for adults with central nervous system impairment and the PNF concept according to M Knott, to recognise components of application of neurodevelopmental treatment – the Bobath paediatric concept, the Vojta concept, the Bobath concept for adults with central nervous system impairment and the PNF concept according to M Knott.

Compulsory literature

Macek, Z, Grodek, G: Measurement and documentation in neurological physiotherapy. Fizioterapija 3 (Suppl 2); 123-125

Grozdek, G, Macek, Z: Fundamentals of Bobath concept – teaching materials for 2nd year physiotherapy students. Zagreb: Medical School University of Zagreb; 1995.

Grozdek, G, Macek, Z: Physiotherapy in neurology – teaching materials for internal use of physiotherapy and occupational therapy students. School of Health Studies, Zagreb, 2001/2002 (textbook in preparation)

Skocilic, S: Early kinesiology diagnostics and therapy according to Vojta – teaching materials for students of School of Health Studies. Zagreb: Childrens' Hospital, 1999.

Literature:

Filipovic, V: Fundamentals of PNF concept for physiotherapists. Zagreb: School of Health Studies, 2004.

Recommended literature

Davies, P. M.: Starting Again: Early Rehabilitation After Traumatic Brain Injury or Other Severe Brain Lesions. London: Springer – Verlag; 1994.

Peath Rohlfs, B.: Erfahrungen mit dem Bobath – Konzept: Grundlagen, Behandlung,

Fallbeispiele. Stuttgart; New York: Thieme; 1999.

Bly, L., Whiteside, A.: Facilitation techniques based on NDT principles. San Antonio: Therapy Skill Builders, 1997.

Bly, L.: Baby treatment based on NDT principles. San Antonio: Therapy Skill Builders, 1999.

	<p>Blanche, E. I., Botticelli, T. M., Hallway, M. K.: Combining Neuro-Developmental Treatment and Sensory Integration Principles – An Approach to Pediatric Therapy. San Antonio: Therapy Skill Builders, 1995.</p> <p>K. Bobath: A Neurophysiological basis for the Treatment of Cerebral Palsy. Oxford: Blackwell Scientific Publications, 1980.</p> <p>Adler, S., Beckers, D., Buck, M.: PNF in Practice. An Illustrated Guide, 2nd ed. New York: Springer - Verlag, 2000.</p> <p>Reichel, H.S.: Das PNF - Konzept. Prinzip - Methode - Technik. Hippokrates, 2002.</p>
ECTS	<p>9 ECTS points represent the total academic course load consisting of 280 hours which include lecture attendance as prescribed by the study programme, preparing ECTS and taking part in practical training as well as satisfactory preparation and presentation of gained knowledge and skills through midterm, practical and oral exam.</p>
Exam:	<p>Midterm exams, practical and oral exam</p>
Quality control:	<p>Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.</p>

8. CLINICAL KINESIOLOGY

Course content:	<p>Introduction to the kinesiological analysis of human body movement: principles of kinematics: osteokinematics, arthrokinematics; principles of kinetics: forces, levers, torque. Clinical aspects of physiology and neurophysiology: clinical application of motor control of normal movement: requirements for normal muscle contraction, normal tone of connective tissues and joint function through afferent-efferent nervous pathways. Posture development and postural adaptation of the human body. Normal movement – normal function and postural adaptation and differentiation of pathological movement – pathological functions and postural adaptations.</p> <p>Kinesiological analysis of the spine: anatomical, physiological and biomechanical characteristics of the spine; muscle function, connective tissue and trunk joints function for postural development and maintenance; vertebral dynamic segment function in normal postural adaptation; intrinsic and extrinsic spine stability in the normal function analysis.</p> <p>Kinesiological analysis of the head, neck and trunk in the function of breathing; understanding the breathing function, muscles and joints necessary for breathing, pressures in vital body cavities in spontaneous and forced breathing.</p>
-----------------	---

Kinesiological analysis of head and neck in the processes of mastication, swallowing and mimics: anatomical, physiological and biomechanical characteristics of the temporomandibular joint, biomechanical laws of mastication and swallowing; characteristics of mimic muscles.

Kinesiological analysis of shoulder girdle: anatomical, physiological and biomechanical characteristics of bones, joints, muscles and connective tissues in postural development and maintenance of normal posture, biomechanical mechanisms in normal function of the shoulder girdle.

Kinesiological analysis of the elbow, forearm and hand: anatomical, physiological and biomechanical characteristics of bones, joints, muscles and connective tissues of the elbow and hand in postural development and maintenance of normal posture. Role of the biomechanical mechanisms in the analysis of elbow and hand function and differentiation of fine and gross motor function of the hand.

Kinesiological analysis of the pelvic floor, pelvis and hip joint: anatomical, physiological and biomechanical characteristics of bones, joints, muscles and connective tissues of the pelvis and hip in postural development and maintenance of normal posture; biomechanical laws of the pelvis and hip joint function and the most common causes of deviations from the normal function.

Kinesiological analysis of the knee: anatomical, physiological and biomechanical characteristics of bones, joints, muscles and connective tissues of the knee in postural development and maintenance of normal posture; biomechanical laws of knee function and the most common causes of deviations from the normal function. Kinesiological analysis of the foot: anatomical, physiological and biomechanical characteristics of bones, joints, muscles and connective tissues in postural development and maintenance of normal posture: biomechanical laws of foot function and the most common causes of deviations from the normal function.

Characteristics of the most common postural deviations. Applicability of gained knowledge in the clinical practice for particular body segment and the body as a whole.

Analysis of standing and sitting body posture; transfer analysis; gait analysis: muscle activity in the gait cycle, energy consumption in gait phases, types of gait, postural adaptations of particular body segments in gait, clinical application of kinesiological gait analysis. Analysis of functional relations of body segments using isokinetic.

After the course student will gain knowledge and skills necessary for further advanced courses and clinical science.

General and
specific
competencies:

After the course student will be able to: recognise normal movement and normal motor function of the human body, define kinesiological and biomechanical laws of normal body functioning for particular segments and for the body as a whole, differentiate between roles of bony segments, joints, muscles and connective tissues in respect to normal function, define and determine posture status and differentiate normal from pathological postural status, apply kinesiological terminology in the presentation of functional analysis of human body segments and the body as a whole.

Literature:

Compulsory literature:

1. Filipovic, V, Klaic, I, Jakus, L, Vrcic, L. Fundamentals of clinical kinesiology. Teaching material. Zagreb: School of Health Studies, 1999.
2. Filipovic, V. Body posture and postural adaptation. In: Jurinic, A. Mechanically induced lower back pain. Zagreb: Croatian Society of Physiotherapists (13-24), 2001.
3. Klaic, I, Jakus, L, Filipovic, V, Pavlakovic, A. Workbook for clinical kinesiology for physiotherapy students at School of Health Studies, 2004.
4. Nikolic, V. Principles and elements of biomechanics. Skolska knjiga, Zagreb, 1998.

Recommended literature

1. Nordin, M., Frankel, V. H.: Basic biomechanics of the musculoskeletal system. London: Lea & Fabinger, 1989.
2. Norkin, C. C., Levangie, P. K.: Joint structure and function: Comprehensive analysis. Philadelphia: F. A. Davis Company, 1992.
3. Perry, J. F., Rohe, D. A., Garcia, A. O.: The Kinesiology Workbook – 2nd edition. Philadelphia: F. A. Davis Company, 1996.
4. Smith, L. K., Weiss, E. L., Lehmkuhl, L. D.: Brunnstrom's Clinical Kinesiology – 5th edition. Philadelphia: F. A. Davis Company, 1996.

ECTS

8,5 ECTS points represent the total academic course load consisting of 238 hours which include lecture and seminars attendance as prescribed by the study programme, preparing and taking part in laboratory exercises as well as satisfactory preparation and presentation of gained knowledge and skills through midterm, practical and oral exam.

Exam:

Midterm exams, practical, written and oral exam.

Quality control:

For the purposes of teaching, there is need for a classroom, a practical skills laboratory and a biomechanical diagnostic laboratory. Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

9. CLINICAL TRAINING I

Course content:

Introduction to physiotherapy, P-30: Scope of practice and the role of physiotherapist in modern physiotherapy; physiotherapy approaches and their differences. Team collaboration and pre-requisites for teamwork in physiotherapy; models of teamwork. Types of organisation of physiotherapy units.

Physiotherapy assessment, P-60: Subjective examination, previous medical history, observation, palpation, measurements and tests in physiotherapy. Anthropometric measurements, aerobic capacity and endurance measurements,

	<p>assessment of integrity and mobility of joints, measurement of movement range; muscle strength measurement – manual muscle test, dynamometry, isometric and isokinetic strength; posture assessment; pain assessment; assessment of skin integrity, assessment of reflex activity; assessment of daily activities and daily instrumental activities; gait, locomotion and balance assessment; ergonomic and biomechanical assessment; assessment of the use of aids and adaptive equipment. Documentation and interpretation of assessment results, and the use of results in the planning of physiotherapy intervention.</p> <p>After the course student will acquire basic knowledge and skills necessary for the conduction of physiotherapy assessment and the determining of need for physiotherapeutic treatment. After the course student will acquire knowledge of basic physiotherapy terms, process of planning and organising in physiotherapy.</p> <p>After the course student will gain knowledge necessary for further advanced courses and clinical sciences.</p>
General and specific competencies:	<p>After the course student will be able to: determine and recognise the scope of physiotherapeutic practice, recognise different roles of physiotherapists in the clinical environment, recognise various teamwork models, determine the specifics of physiotherapy in work with various group of patients, recognise different types of physiotherapy service organisation, recognise the research role in physiotherapy, actively participate in the implementation of subjective and objective physiotherapy assessment procedures, actively participate in the documentation and interpretation of physiotherapy assessment results.</p>
Literature:	
ECTS	<p>3 ECTS points represent the total academic course load consisting of 90 hours, which include student's active participation in clinical training and satisfactory preparation and presentation of gained knowledge and skills through midterm and practical exams.</p>
Exam:	<p>Midterm exam and practical exam.</p>
Quality control:	<p>Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.</p>

10. CLINICAL TRAINING II

Course content:	<p>Physical factors in physiotherapy, P-35: Electro diagnostic procedures which precede the application of physiotherapy, electrotherapy, electrostimulation, thermotherapy and thermodiagnosics, ultrasound therapy, light therapy, paraffin therapy, magneto therapy, hydrotherapy, cryotherapy and cry kinetics, laser therapy, fundamentals of balneology and climatology.</p> <p>Therapeutic exercises within physiotherapy intervention, P-35: activities for strength range of motion, endurance, coordination, motor control and motor learning, motor development and motor proficiency, posture and respiration improvement. Implementation of activities of aerobic endurance by use of ergometer, stepper, weights, pulley, hydraulics, elastic bands, robotics,</p>
-----------------	--

mechanical or electromechanical devices; strength improvement through active movement, active assisted movement and movement against resistance; flexibility exercises; exercises with therapeutic ball; exercises in water; breathing techniques; gait, locomotion and balance training; balance and coordination training; ergonomics training.

Manual therapy techniques, P-30: Implementation of manual therapy techniques within clinical conditions including therapeutic massage, connective tissue massage, manual lymph drainage, acupressure massage, manual traction, joint mobilisation and manipulation, soft tissue mobilisation and manipulation.

Respiratory therapy, P-30: breathing techniques, cough mechanism, secretion mobilisation and transport, drainage positions, relaxation methods, thorax mobilisation, respiratory training and inhalation therapy.

Functional training, self-care and household care in the scope of physiotherapy practice, P-20: daily activities and daily instrumental activities. Principles and procedures of implementation of assistive devices, orthoses, adaptive, protective and supportive devices and equipment, P-15: implementation of adaptive equipment: help tools: crutches, walking sticks, walkers, wheelchairs, static and dynamic splints; implementation of orthotic equipment: splints, tapes, cartridges; protective equipment: tapes, protective bandages, pillows; support equipment application: support bandages, compression bandages, corsets, collars, elastic bandage.

After the course student will gain knowledge and skills necessary for the planning and programming of the physiotherapy process and the selecting and implementation of physiotherapy procedures depending on individual's needs. After the course student will gain knowledge and skills necessary for further advanced courses.

General and specific competencies:

After the course student will be able to: implement appropriate physical factors within the physiotherapy process, implement appropriate forms of therapeutic exercises within the physiotherapy process, implement appropriate manual techniques within the physiotherapy process, implement appropriate respiratory techniques within the physiotherapy process, implement appropriate procedures of functional self-care and house-hold care within the physiotherapy process, implement appropriate methods in the implementation of appliances, orthoses, adaptive, protective, retaining means and equipment within the physiotherapy process.

Literature:

ECTS

5 ECTS points represent the total academic course load consisting of 165 hours, which include student's active participation in clinical training and satisfactory preparation and presentation of gained knowledge and skills through midterm and practical exams.

Exam:

Midterm exams and practical exam.

Quality control:

Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its

realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

11. CLINICAL TRAINING III

Course content:

Physiotherapy in cardiology and pulmonology: physiotherapy assessment for individuals with cardiovascular and respiratory disorders and diseases. Process of physiotherapy in the intensive care unit and after cardiac surgery: implantation of heart electrostimulator, bypass surgery and after heart transplantation. Process of physiotherapy for individuals with respiratory system dysfunction, which is a consequence of neuromuscular disease. Physiotherapy in orthopaedics: Physiotherapy assessment: special tests and measurement instruments for diagnostics of musculoskeletal system disorders. Application of prostheses and orthoses for congenital and acquired orthopaedic diseases and application of electronic devices and appliances in daily activities. Basic elements of application of the PNF concept in orthopaedics. Physiotherapy in traumatology: Physiotherapy assessment; special tests and measurement instruments for diagnostics of musculoskeletal system disorders. Physiotherapy process for individuals with musculoskeletal system trauma. Basic elements of application of the PNF concept in traumatology. Physiotherapy process for individuals with muscle and ligament ruptures. Application of orthoses and prostheses for amputees, prosthetics of lower and upper extremities: choice of prosthesis, prosthetics supply and preparation for prosthesis supply. Physiotherapy in sports medicine: Physiotherapy assessment: special tests and measuring instruments for diagnostics of musculoskeletal system disorders in sports. Process of physiotherapy in overexertion syndromes. Basic elements of the PNF concept application in sports medicine. Application of physiotherapy procedures in preventing sports injuries. First aid in sport. Application of orthoses and prostheses, various bandages, adaptive and protective devices in physiotherapy and training process. Physiotherapy in rheumatology: Physiotherapy assessment: special tests and measuring instruments for the diagnostics of musculoskeletal system disorders in rheumatic diseases and disorders. Physiotherapy in neurology: Physiotherapy assessment in neurological physiotherapy; Basic principles of the Bobath concept use in adults with central nervous system disorders. Physiotherapy in paediatrics: Physiotherapy assessment in stages and diseases affecting normal sensomotoric child development. Basic elements of physiotherapy concepts used with children: neurodeveloping treatment according to the Bobath concept, early kinesiology diagnostics and therapy according to Vojta, the Halliwick concept. Team collaboration and education of parents and team members. Physiotherapy in gynaecology with obstetrics: physiotherapy assessment and treatment after gynaecology surgery, in pelvic pain, anatomical and physiological changes in the urogenital tract and postmenopausal problems. Physiotherapy in oncology: Physiotherapy process in individuals with head and neck tumour diseases or tumour treated individuals. Physiotherapy process after breast cancer surgery. Physiotherapy process in individuals with or after treatment of reproductive and digestive system tumours. Physiotherapy process in

<p>General and specific competencies:</p>	<p>childhood tumours. Physiotherapy in psychiatry: Physiotherapy process in neurotic disorders, affective disorders, schizophrenia, posttraumatic syndrome, manic syndrome, depressive syndrome, anorexia nervosa and persons with psychosomatic disorders. Physiotherapy in geriatrics: physiotherapy process for the elderly.</p> <p>After the course student will gain knowledge and skills necessary for the planning and implementing of physiotherapy process for different types of patients.</p> <p>After the course student will be able to: determine the need for physiotherapy, plan and implement physiotherapy procedures for people with cardiovascular and respiratory diseases and disorders, and analyse effects of physiotherapy; determine the need for physiotherapy, plan and implement physiotherapy procedures for people with injuries, diseases, disorders and special conditions of the musculoskeletal system, and analyse the effects of physiotherapy; determine the need for physiotherapy, plan and implement physiotherapy procedures for people with impairments, injuries and diseases of the central and peripheral nervous system and analyse the effects of physiotherapy, plan and implement physiotherapy procedures for gynaecology and obstetrics, and for chosen groups paediatric patients and analyse the effects of physiotherapy; determine the need for physiotherapy, plan and implement physiotherapy procedures for people with and treated for tumour diseases and analyse the effects of physiotherapy; determine the need for physiotherapy, plan and implement physiotherapy procedures according to specific problems of geriatric population and people with psychiatric diseases and analyse the effects of physiotherapy; demonstrate fundamental parts and duties of physiotherapists within health care teams, and apply knowledge and skills of collaboration in team work.</p>
<p>Literature:</p>	
<p>ECTS</p>	<p>10 ECTS points represent the total academic course load consisting of 330 hours, which include clinical and special clinical training as well as satisfactory preparation and presentation of gained knowledge and skills through midterm and practical exams.</p>
<p>Exam:</p>	<p>Midterm exams and practical exam.</p>
<p>Quality control:</p>	<p>Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.</p>

12. CLINICAL TRAINING IV WITH FINAL PAPER

<p>Course content:</p>	<p>Plan and research implementation on a selected sample of users, data processing, analysis and interpretation of given results. Creating a physiotherapy process according to the selected area of clinical interest (muscular-skeletal,</p>
------------------------	--

	cardio-respiratory, neurological, paediatric, geriatric and gynaecological). Mastering skills used in the physiotherapy process according to the selected area of clinical interest. Demonstration of professional and scientific literature necessary for the understanding and critical evaluation of physiotherapy processes within the selected area of interest. Demonstration of conducted research through bachelor's thesis.
General and specific competencies:	After the course student will gain knowledge and skills necessary for the planning and implementation of the physiotherapy process for a selected group of users, and knowledge and skills necessary for critical evaluation and presentation of physiotherapy program implementation for a selected group of users. After the course student will be able to: make plan of research implementation for a selected group of users, implement knowledge from scientific methodology necessary for independent research planning and implementing, create, implement and document physiotherapy process according to selected clinical area of interest, demonstrate professional and scientific literature necessary for the understanding and critical evaluation of physiotherapy procedures in the selected area of clinical interest, demonstrate medication and results of conducted research through bachelor's thesis.
Literature:	
ECTS	15 ECTS points represent the total academic course load consisting of 420 hours, which include active participation in planning, implementation and evaluation of physiotherapy process, conducted in chosen group of users, and a written and oral presentation of conducted research.
Exam:	Written and oral presentation of conducted research
Quality control:	Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff.

13. CLINICAL MEDICINE I

	Orthopaedics L-30; History of orthopaedics, basics of diagnostics, orthopaedic surgery (non operative and operative). General skeletal and joint diseases, bone Course content: dysplasia, multiple congenital fractures, Metabolic and hormonal diseases (osteoporosis, rickets and osteomalacia, gout). Juvenile osteochondroses.
Course content:	Inflammatory skeletal and joint diseases (osteomyelitis, arthritis, rheumatoid arthritis). Degenerative diseases of joints. Arthroplasty. Normal and abnormal bone healing. Reflex sympathetic dystrophy. Effects of paralysis. Bone-joint tumours. Special part: congenital and acquired diseases of body parts (neck, spine and pelvis, thorax, shoulder and upper arm, elbow and forearm, hand wrist and hand, hip and thigh, knee and lower leg, ankle and foot). Orthopaedic equipment. Surgery and traumatology L-35; Fundamental principles of work in surgery: asepsis, antisepsis, sterilisation, types of surgical procedures according to name and regions, response to injury – operation, wounds and healing, basics and types of anaesthesia, reanimation, transfusion of whole blood and blood products, respiratory complications of surgery, chronic venous insufficiency, thrombosis and embolism, shock syndrome, burns; neurosurgery: craniocerebral injuries, types of

neurosurgical procedures; thoracic and cardiovascular surgery: chest injuries, surgical diseases of the chest, types of thoracic surgical procedures; abdominal surgery and urology: abdominal organs and kidney injuries; types of abdominal wall incisions; types of the most common abdominal surgical procedures; injuries of bone and joint system (sprains, dislocations, fractures), types of immobilisation, fractures of the shoulder and upper arm, fractures of the forearm, wrist and hand, fractures of the pelvis and hip, fractures of the upper leg, lower leg and foot, spinal injuries.

Sports medicine L-15; History of sports medicine, prevention of injuries, mechanisms and classification of sports injuries, first aid in sports, general principles of treatment of acute injuries, general principles of treatment of chronic sports injuries, nutrition of athletes, doping and other illicit agents in sports.

Prosthetics and orthotics L-10; Historic development of orthopaedic aids, classification and names, epidemiology and principles of team work and interdisciplinary work in the field of orthopaedic appliances, principles of prescribing and application of appliances, basic principles and technology of manufacturing of prostheses, orthoses and other appliances. Prosthetics and orthotics in integral rehabilitation, residential and environmental adaptations for the disabled.

After the course student will gain knowledge necessary for further advanced courses.

General and
specific
competencies:

After the course student will be able to: recognize and differentiate between basics of diagnostic in orthopaedics, recognize and name pathophysiological processes and mechanisms of general skeletal disorders, inflammatory diseases, degenerative diseases of joint and tumour diseases, name and differentiate between clinical pictures of general disorders, inflammatory diseases, degenerative and tumour diseases of the skeletal system, recognize and differentiate congenital and acquired skeletal system disorders, define fundamental principles of work in surgery, name types of surgical procedures according to name and region, recognize and describe complications of surgery, recognize and describe skeletal injuries, recognize and differentiate between methods of treatment of skeletal injuries, recognize and differentiate between sports injuries, name and describe general principles of treatment of acute and chronic sports injuries, recognize and describe prevention of injuries, recognize specific needs and plan nutrition for athletes, define and describe fields of use of prosthetics and orthotics, recognize and describe the application of prosthetics for upper and lower extremity.

Compulsory literature

Literature:

1. Pecina, M. et al.: Orthopaedics. Zagreb: Medicinska biblioteka, 2004.
2. Prpic, I. et al.: Surgery for medicals, Skolska knjiga 1995.
3. Jelic, M.: Prosthetics, Fizioterapija, 1998.; No 1. Chapter 2., page 15-35
4. Pecina, M., Heimer, S.: Sports Medicine. Zagreb: Naprijed, 1995. (selected chapters).

ECTS	7 ECTS points represent the total academic course load consisting of 224 hours, which include lectures as prescribed by the study programme and presentation of gained knowledge and skills through midterm, practical and oral exams.
Exam:	Midterm exams, written and oral exam.
Quality control:	Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

14. CLINICAL MEDICINE II

Course content:	<p>Cardiology L-15; Diagnostic methods in cardiology: medical history and physical examination, invasive and non-invasive methods; electrocardiography; stress test; procedures for recognition and intervention for heart failure, rheumatic fever, characteristics; acquired heart defects; congenital heart defects and inflammatory heart diseases, ischaemic heart disease, heart rhythm disorders, conductive disorders, aorta and peripheral artery diseases, arterial hypertension, atherosclerosis; rehabilitation after cardiac surgery and cardiopulmonary resuscitation.</p> <p>Pulmonology L-15; Diagnostic methods in pulmonology; medical history and physical examination. Chronic obstructive pulmonary diseases, pulmonary tuberculosis, sarcoidosis, pneumonia, bronchial and pulmonary cancer, emergency conditions in pulmonology, therapeutic procedures in pulmonology.</p> <p>Rheumatology L-30; Diagnostic methods in rheumatology, characteristics of autoimmune diseases and systemic connective tissue diseases, rheumatoid arthritis, juvenile chronic arthritis, psoriatic arthritis, Reiter disease, ankylosing spondylitis, degenerative diseases of joints, degenerative spine diseases, extra articular rheumatism, metabolic bone disease.</p> <p>Gynaecology and obstetrics L-15; Diagnostic methods in gynaecology and obstetrics, inflammatory diseases of lower and upper parts of the female reproductive system; benign and malignant diseases of cervix; microinvasive and invasive cervix cancer; benign diseases of uterus; endometrial cancer; endometriosis; chorioepiteliom; benign ovarian tumours; ovarian cancer; menstrual cycle and menstrual cycle disorders, contraception, sterility, urinary incontinence.</p> <p>Physiology of pregnancy and birth; labor stage; pre-eclampsia; bleeding during early and late pregnancy; ectopic pregnancy; abortions; "cluster of grapes"; safeguarding child at birth; childbed; postnatal disorders, lactation.</p>
General and specific competencies:	<p>After the course student will gain knowledge necessary for further advanced courses.</p> <p>After the course student will be able to: describe pathophysiological processes and occurrence mechanisms of cardiovascular diseases, describe clinical presentation of cardiovascular diseases, name, recognize and describe diagnostic methods and possibilities of conservative and operative treatment of cardiovascular diseases, describe pathophysiological processes and occurrence</p>

	<p>mechanisms of respiratory diseases, describe clinical presentation of respiratory diseases, name, recognise and describe diagnostic methods and possibilities of conservative and operative treatment of respiratory diseases, describe pathophysiological processes and occurrence mechanisms of rheumatic diseases and disorders, describe clinical presentation of rheumatic diseases and disorders, name, recognise and describe diagnostic methods and possibilities of treatment of rheumatic diseases and disorders, describe pathophysiological processes and occurrence mechanisms of female reproductive system diseases, describe clinical presentation of female reproductive system diseases, name recognise and describe diagnostic methods and possibilities of conservative and operative treatment of female reproductive system diseases, describe physiology of birth and labor, describe and recognise pregnancy complications.</p> <p>Compulsory literature</p> <ol style="list-style-type: none"> 1. Vincelj, J.: Selected chapters in Cardiovascular diseases. Zagreb: Skolska knjiga, 1998. 2. Mimica, M.: Respiratory System diseases, in: Internal medicine in practice. Zagreb: Skolska knjiga, 1989. 3. Dürrigl, T.: Rheumatology. Zagreb: Medicinska naklada, 1997. 4. Simunic. V. et al.: Gynaecology. Zagreb: Medicinska biblioteka, 2001. 5. Drazancic, A. et al.: Obstetrics. Zagreb: Medicinska knjiga, 1999.
Literature:	
ECTS	5, 5 ECTS points represent the total academic course load consisting of 154 hours, which include lectures attendance as prescribed by the study programme and satisfactory preparation and presentation of gained knowledge and skills through midterm, written and oral exams.
Exam:	Midterm exams, written and oral exam.
Quality control:	Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

15. CLINICAL MEDICINE III

Course content:	Neurology L-30; Basics of neuroanatomy, neurological diagnostics, basics of neurophysiology, conscience and higher parts of the nervous system, pathophysiology of motoric system disorders, syndromes of increased intracranial pressure and meningeal irritation, epilepsy, cerebrovascular diseases, brain and spinal cord tumours, extrapyramidal diseases, neuromuscular diseases, demyelinating diseases, inflammatory diseases of the central and peripheral nervous system, functional headaches, closed craniocerebral injuries, malformations of the central nervous system, neurocranium and the spinal canal,
-----------------	---

selected chapters from neuropediatric, clinical syndromes of cranial nerves disorders, peripheral nerves compression damage, clinical syndromes of impaired coordination and vestibular disorders.

Psychiatry L-15; Definition of psychiatry, concept of mental health and mental disorders, theories of mental health, disorders and personality, history and development of psychiatry, scope of practice of psychiatrists, activities of psychiatry, organisation of psychiatric protection and improvement of mental health, psychiatric care (term, content and forms), general pathophysiology (mental content), physical status, organic disorders, addictive disorders, schizophrenic disorders, affective disorders, neurotic disorders, somatoform disorders, behavioural disorders, personality disorders, mental backwardness, care of certain diseases.

Paediatrics L-30; Maternal and child health, mental development of children, prenatal, perinatal and postnatal period, psychomotor development of infants, toddlers and pre-school children, psychology of sick children; nutrition and disorders, infectious diseases, diseases of the heart, blood vessels and hematopoietic organs, diseases of the nervous system, neuromuscular and muscular diseases, diseases of the kidneys and the urinary system, behavioural disorders in children, disabled children.

Oncology L-15; About tumour diseases; risk factors for tumour diseases, epidemiology and classification of tumours, prevention and treatment of tumours; prevention and treatment of consequences on the quality of life and the functioning after aggressive tumour treatments. Adult and childhood tumours.

After the course student will gain knowledge necessary for further advanced courses.

General and
specific
competencies:

After the course student will be able to: describe pathophysiology of nervous system diseases and motoric system disorders, describe clinical presentation of neurologic diseases, name, recognise and describe diagnostic methods in neurological diseases and disorders, treatment possibilities, describe forms of mental health and mental disorders, recognise and understand the theories of mental health, explain the term of psychiatric care, name, recognise and describe possibilities of treatment for pathophysiological disorders, organic disorders, addictive disorders, schizophrenic disorders, affective disorders, neurotic disorders, somatoform disorder, behavioural disorders, personality disorders, describe methods of treatment and protection of healthy and sick children, describe and recognise normal psychomotor development of children, understand child's psychological reactions to diseases, name, recognise and describe diagnostic methods and possibilities of treatment of childhood diseases and disorders, describe occurrence pathophysiology and clinical presentation of tumour diseases, name, recognise and describe diagnostic methods of tumour diseases, possibilities and consequences of treatment.

Compulsory literature

Literature:

1. Poeck, K.: Neurology. Zagreb: Skolska knjiga, 1994.
2. Brinar, V. et al.: Neurology. Zagreb: Skolska knjiga, 1997.
3. Mardesic, D. et al.: Pediatrics. Zagreb: Skolska knjiga, 1982.

	4. Rak, D.: Selected chapters from Psychiatry – teaching material. Zagreb: School of Health Studies, 1998.
ECTS	6,5 ECTS points represent the total academic course load consisting of 154 hours which include lecture attendance as prescribed by the study programme and satisfactory preparation and presentation of gained knowledge and skills through midterm, written and oral exams.
Exam:	Midterm exams, written and oral exam.
Quality control:	Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

16. RESEARCH METHODS IN PHYSIOTHERAPY

	Methodology; Research approach; overview of the research process; types of research drafts; sources and types of data; types of measurement scales; characteristics of measurement procedures; systematic observation; marking lists and evaluation scales; interviews, surveys, questionnaires and tests; sources of professional literature; Independent research conducting; Formatting of expert and scientific reports.
Course content:	Statistics; basic concepts of probability; grid and graphical results presentation; result grouping; measurements of central tendency and variability: arithmetic mean, central value, dominant value; range; standard deviation and variability coefficient; normal distribution and other distribution types; standardised results (z-values, centiles, deciles); error of the arithmetic mean; statistical significance of differences between different groups of data (t-test, chi square test for different types of data); relationships between data – correlation; data import and application of statistical methods in programs for statistical data processing.
General and specific competencies:	After the course student will be able to follow and understand most professional and scientific papers in the field of physiotherapy. After the course student will be able to: name all important elements of the research plan and report, and compare and recognise different quality plans, understand importance of research in physiotherapy, plan and conduct simple research, describe and apply basic statistic methods and procedures, name and use various statistic procedures and compare them in regard to their advantages and disadvantages, choose proper procedures depending on the type of available data, recognise and describe data features on the measurement scale, import, process and interpret data in programs for statistical data processing, database research.
Literature:	Compulsory literature

	<p>1. Mešovsek, M. (2003) Introduction to research methods. Jastrebarsko: Naklada "Slap". 1. part – Chapters: 1.-4. (page: 17.-114.) 93 pages</p> <p>2. Petz, B. (1997) Statistics for practice. Zagreb: Republic of Croatia Ministry of Interior, Sector for personnel, legal and educational activities.</p> <p>Recommend literature</p> <p>1. Marusic, M., Petrovečki, M., Petrak, J. i Marusic, A. (2000) Introduce to research work in Medicine. Zagreb: Medicinska naklada.</p> <p>2. Petz, B. (1997) Basic statistic methods for non maths. Jastrebarsko: Naklada "Slap".</p>
ECTS	4 ECTS points represent the total academic course load consisting of 182 hours which include lecture attendance as prescribed by the study programme, preparing and taking part in laboratory exercises as well as satisfactory preparation and presentation of gained knowledge and skills through written and oral exams.
Exam:	Written and oral exam.
Quality control:	Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

17. BASICS OF MOTORIC TRANSFORMATIONS

Course content:	Acquiring knowledge of the general laws of planning and programming of training in athletic activities for healthy individuals and realisation of transformation processes under the influence of targeted motor activity; creation of motor stereotype of motion; improvement of training status; introduction to the theory of coaching; introduction to teaching methods in kinesiology; anthropometry; transformation processes control. Education of non-swimmers and improvement of swimming techniques.
General and specific competencies:	After the course student will gain knowledge necessary for further advanced courses. After the course student will gain knowledge of methods of transformation processes of their own bodies using different forms of physical activities. After the course student will be able to: understand the theory of coaching, understand the need of motor testing, describe, define and make a plan and program of the transformational process depending on motor testing results, associate results of motor testing with the making of the transformational plan, critically analyse the implementation of the transformational process for individuals with decreased ability for normal movement.
Literature:	Compulsory literature

	<p>Filipovic, V, Horvatin, M, Radenovic, O: Fundamentals of motor transformations, teaching materials, Zagreb School of Health Studies, Zagreb, 2001.</p> <p>Metikos, D, Hofman, E, Prot, F, Pintar, Z, Oreb, G: Measurement of basic motor features of the athlete, Faculty of kinesiology, Zagreb, 1989.</p>
ECTS	6 ECTS points represent the total academic course load consisting of 168 hours which include lecture attendance as prescribed by the study programme, preparing and taking part in methodical exercises as well as satisfactory preparation and presentation of gained knowledge and skills through practical and oral exams.
Exam:	Practical and oral exam.
Quality control:	Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

18. PSYCHOLOGICAL HUMAN DEVELOPMENT

Course content:	<p>Introduction to human development; development, health and disease; methods of studying human development; developmental theories; characteristics of developmental stages; genetic basis of development; prenatal development; prenatal environment; development during the first year of life; adaptation of a new-born child, growth and development; motor development and development of perception, cognitive development, personality development and social development, development in early childhood; physical and motor, cognitive, social and personality development; development in later childhood age; physical and motor, cognitive, social and personality development; development in adolescence; relationship between physical and mental development, sexual characteristics development, motor, cognitive, social and personality development, problems of adolescence; development in younger adulthood – physical, cognitive and social development, family, occupation and professional development; development in middle adulthood – physical, cognitive, social and personality development, midlife crisis, family and professional changes; development in old age, ageing of a nation and an individual, theories of ageing, changes in abilities, personality and ageing, social relations, family, mental health, death and dying, models of social and health care for the elderly.</p>
General and specific competencies:	<p>After the course student will gain knowledge of characteristics of developmental stages in physical human development and notice different patients' needs in different developmental stages.</p> <p>After the course student will be able to: describe and understand characteristics of physical human development throughout lifetime, describe developmental norms and notice changes in physical, motoric, cognitive and social development</p>

and in personality development throughout life, develop sensibility for different psychological needs of persons in different stages of life.

Compulsory literature

Despot-Lucanin, J.: Introduce to developmental psychology, teaching materials, non-published Despot-Lucanin, J. (2003.) Aging experience (chapters 1, 2 and 10). Jastrebarsko: Naklada Slap.

Literature:

Havelka, M and Despot-Lucanin, J. (1990.) Aging Psychology. In: Z. Durakovic et al. Old Age Medicine (338-350). Zagreb: Naprijed

Recommended literature

Vasta, R., Haith, M. M. And Miller, S. A. (1998) Childhood psychology. Jastrebarsko: Naklada Slap..

Schaie, K. W. And Willis, S. L. (2001) Adulthood and old age psychology. Jastrebarsko: Naklada Slap.

ECTS

2, 5 ECTS points represent the total academic course load consisting of 70 hours, which include lecture attendance as prescribed by the study programme, preparing and taking part in methodical exercises as well as satisfactory preparation and presentation of gained knowledge and skills through written and oral exams.

Exam:

Written and oral exam.

Quality control:

Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

19. SPECIAL THEMES IN PHYSIOTHERAPY I

Course content:

Physiotherapy in gynaecology and obstetrics, L-15; S-15: Problems of patients after gynaecological surgery, pelvic pain, anatomical and physiological changes of the urogenital system, postmenopausal problems. Need for physiotherapy in the pre-conception period, during pregnancy, birth and in the period after the birth. Initial status taking and implementation of measuring procedures and tests in the area of gynaecology and obstetrics, patient assessment according to specific cases, development of a physiotherapy plan. Physiotherapy in obstetrics (antenatal, natal and postnatal), fundamentals of perinatal physiotherapy, urogenital physiotherapy, postoperative physiotherapy and rehabilitation of gynaecology patients.

Paediatrics, L-30; S-15; PT-15: Laws, characteristics and phases of normal sensory-motor development and comparison to developmental deviations. Physiotherapy for most common conditions and diseases which affect normal sensory-motor development of the child – premature birth, neurodevelopmental delay, cerebral paralysis, respiratory conditions and diseases, neuromuscular diseases, peripheral nerve lesions, neuropsychiatric disorders. Fundamental principles of the application of various physiotherapy concepts to children

(neurodevelopmental treatment according to the Bobath concept, early kinesiological diagnostics and therapy according to Vojta, method of conductive education, the Halliwick concept).

After the course student will have knowledge necessary for the planning and implementation of the physiotherapy process in the area of gynaecology and obstetrics and for the planning and implementation of the physiotherapy process for most common conditions and diseases which affect normal sensory-motor development in children.

General and
specific
competencies:

After the course student will be able to: understand and describe problems and the need for physiotherapy in gynaecology and obstetrics and for particular groups of paediatric patients; to understand, describe and demonstrate laws, characteristics and phases of normal sensory-motor development of a child; to recognise, analyse and compare main types of deviations in child development; to plan and implement physiotherapy procedures, interventions and evaluations in the work with gynaecology patients, pregnant women, women after birth and with children; to understand and describe theoretic fundamentals, principles and content of different concepts of physiotherapy for the before mentioned groups of patients, to understand and describe roles and tasks of physiotherapists in health teams which deal with gynaecology patients, pregnant women, women after birth and children; to demonstrate fundamental knowledge and skills of cooperation within a team.

Compulsory literature:

Klaic, I: Special themes in physiotherapy – teaching materials, School for Health Studies, Zagreb, 2001.

Latin, V, Vojvodic, S: Physical exercise in some physiological conditions of the women. In: Misigoj-Durakovic, M: Physical exercise and health. Zagreb: Grafos, 1999: 97-107.

Mardesic, I et al: Paediatrics. Zagreb: Medicinska knjiga, 2000: 342-352

Working group Physiotherapy for cystic fibrosis e. V: Physiotherapy for cystic fibrosis. Zagreb: Croatian Society for Cystic Fibrosis, 1994.

Literature:

Schuster, S: Musculo-skeletal system during the pregnancy. In: A, Jurinic et al.

Mechanically induced lower back pain, Zagreb: HZF: 2001: 61-74

Skocilic, S: Early kinesiological diagnostics and therapy according to Vojta – teaching materials for students of the School of Health Studies. Zagreb: Children's Hospital, 1999.

Varovic, V, Benjak, V: Respiratory therapy for the children during mechanical ventilation. Paediatrica Croatica, Vol 44, Suppl 3, 2000: 221

Varovic, V: Early developmental therapy in neonatology. Neonatology 2001 – 3rd Course of continuous development of nurses, 21-24

Vojvodic, S: Exercise for pregnant women, Zagreb: Biovega, 2004

Zergollern, L et al: Paediatrics 1st Book, Zagreb: Naprijed, 1994: 105-119

Recommended literature

E. I. Blanche, T. M. Botticelli, M. K. Hallway: Combining Neuro-Developmental Treatment and Sensory Integration Principles – An Approach to Pediatric Therapy. San Antonio: Therapy Skill Builders, 1995.

L. Bly, A. Whiteside: Facilitation techniques based on NDT principles. San Antonio: Therapy Skill Builders, 1997.

K. Bobath: A Neurophysiological basis for the Treatment of Cerebral Palsy. Oxford: Blackwell Scientific Publications, 1980.

M. C. Coling: Developing Integrated Programs – A Transdisciplinary Approach for Early Intervention. Tucson: Therapy Skill Builders, 1991.

Flehmgig: Normal Infant Development and Borderline Deviations. Stuttgart: Georg Thieme Verlag, 1992.

Majkić M: Kinezioterapija. Zagreb, Medicinska naklada, 2000

C. J. Konkler, C. Kisner: Principles of Exercise for the Obstetric Patient. In: C.

Kisner, L. A. Colby, Therapeutic exercise. Philadelphia: F. A. Davis Company, 1996:595-628.

M. Polden, J. Mantle: Physiotherapy in Obstetrics and Gynaecology. Oxford: Butterworth – Heinemann, 1997.

ECTS

6 ECTS points represent the total academic course load consisting of 182 hours which include lecture and seminar attendance as prescribed by the study programme, preparing and taking part in practical training as well as satisfactory preparation and presentation of gained knowledge and skills through midterm, practical and oral exams.

Exam:

Midterm exams, practical, written and oral exam.

Quality control:

Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

20. FOREIGN LANGUAGE

Course content:

Grammar basics; basic medical terminology; selected texts according to study programme. Students can choose between the English language, the German language or the French language.

General and

After the course student will gain knowledge of special terminology of different medical specialties.

specific

competencies:

After the course student will be able to: follow and understand professional literature in a foreign language and actively communicate with foreign experts for the purpose of knowledge and experience exchange.

	Compulsory literature
	English language:
	Momcinovic, V., Tanay, V., Zurić – Havelka, S.: Medical English. Zagreb: School of Medicine University of Zagreb, 1992.
Literature:	German language:
	Tomazić, Lj.: Medicals texts in German language. Zagreb: Školska knjiga, 1993.
	French language:
	Devčić, I.: Teaching materials in French language for physiotherapy students. Zagreb: School of Health Studies, 2003.
ECTS	2 ECTS points represent the total academic course load consisting of 56 hours which include preparation and taking part in foreign language exercises, and satisfactory preparation and presentation of gained knowledge and skills through written and oral exams.
Exam:	Written and oral exam.
	Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course
Quality control:	Quality control: benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

21. INTRODUCTION TO PHYSIOTHERAPY

Course content:	Definition of physiotherapy, scope of physiotherapy practice, physiotherapist's role in modern physiotherapy, development of today's physiotherapy, physiotherapy approaches and their differences. Organisational levels in physiotherapy: outpatient, inpatient, home care. Team collaboration and preconditions for teamwork. Teamwork models. Organisational models of physiotherapy units. Significance of implementing and respecting professional standards. Role of research in physiotherapy.
General and specific competencies:	After the course student will gain knowledge necessary for further advanced courses. After the course student will gain knowledge of basic physiotherapy terms, planning and organisational processes in physiotherapy. After the course student will be able to: define physiotherapy and scope of practice, describe physiotherapist's role, understand and describe issues and needs of physiotherapy implementation, describe and analyse types of physiotherapy organisational models, recognise, analyse and compare team collaboration models, discuss significance of implementation and compliance with professional standards, discuss the role of research in physiotherapy.

Compulsory literature

Grozdek, G. What is physiotherapy? Guide for users and physiotherapists. Zagreb: HZF, 2000.

Grozdek, G., Jakus L, Klaic I, Jurinic A. Introduction to physiotherapy – selected chapters – teaching materials for physiotherapy students. Zagreb: School for Health Studies, 2001.

Vojvodic Schuster, S. RUZ perspektiva: What means to be a part of RUZ team?. Zagreb: First Croatian-Canadian thematic conference – abstracts, 1998: 7-8

Recommended literature

Literature:

Konkler, C.J. Kisner C.: Introduction to Therapeutic Exercise. In: C. Kisner, L. A. Colby, Therapeutic exercise. Philadelphia: F. A. Davis Company, 1996:3-24.

Myers R.S.: Historical Perspective, Assumptions, and Ethical Considerations for Physical Therapy Practice. In: Saunders Manual of Physical Therapy Practice. Philadelphia: W. B. Saunders Company, 1995:3-17.

Norton B.J.: Clinical Decision Making in Physical Therapy Practice. In: Saunders Manual of Physical Therapy Practice. Philadelphia: W. B. Saunders Company, 1995:17-37.

Schmoll B.J.: Behavioral and Social Science: Considerations for Current Practice. In: Saunders Manual of Physical Therapy Practice. Philadelphia: W. B. Saunders Company, 1995:37-62

Bork C.E.: Research in Physical Therapy. J.B. Lippincott Company, 1992

ECTS

2 ECTS points represent the total academic course load consisting of 56 hours which include lecture and seminar attendance as prescribed by the study programme, and satisfactory preparation and presentation of gained knowledge and skills through written and oral exams.

Exam:

Written and oral exam.

Quality control:

Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

22. HEALTH PSYCHOLOGY

Course content:

Definition of health psychology, possibilities of application of psychological knowledge and skills in the protection of health, diagnostics, treatment and rehabilitation, the role of health psychology in improvement of the efficacy of clinical practice and the savings of health expenditures, current holistic bio-socio-psychological approaches in health care, types of health behaviour and health counselling influence of mental status on the development of physical disorders, psychological stress and diseases, basic concepts of psycho-neuro-

	immunology, prevention of negative impacts of stress, psychological reactions to physical disorders, problems of psychological adaptation to hospitalisation, methods of fear and anxiety reduction during disease, psychological reactions to severe injuries, psychological problems of the disabled and adaptation to disability, psychological mechanisms of pain, psychological factors influencing pain experience, psychological methods of pain reduction, psychological problems of the dying.
General and specific competencies:	After the course student will gain knowledge necessary for recognising the influence of mental status on health and psychological reactions during disease, also in providing psychological assistance and support to patient and his/her family. After the course student will be able to: evaluate the modern, overall bio-socio-psychological approach to health and disease, explain influence of psychological factors on health and disease, recognise psychological reactions to physical diseases, plan patient's psychological preparation to medical procedures, apply psychological techniques and skills in the protection of health, diagnostics, treatment and rehabilitation.
Literature:	Havelka, M.: Health Psychology. Jastrebarsko: Naklada „Slap“, 1998.
ECTS	2 ECTS points represent the total academic course load consisting of 98 hours which include lecture attendance as prescribed by the study programme, preparing and taking part in methodical exercises, and satisfactory preparation and presentation of gained knowledge and skills through written and oral exams.
Exam:	Written and oral exam.
Quality control:	Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

23. ELECTIVE SUBJECTS

23. 1. Gerontology

Course content:	The aging of a nation and of the individual – demographical changes, aging criteria. Theory of aging – biological, social, psychological. Biological, psychological and social aging. Aging and society – social status, attitudes and prejudices. Differences in the possibilities of aging – senses, motor skills, cognitive abilities, physical health, mental health, functional abilities. Social adaptation and personality in aging – family, retirement, housing. Health-related behaviour and aging. Communication with the elderly.
	Specific problems of old individuals – depression, dementia, disability. Models of care for the elderly. Interdisciplinary approach in elderly care.
General and	After the course student will gain knowledge of aging and age, knowledge of

specific competencies:	<p>prevention and alleviation of adverse effects of aging and knowledge of possibilities of quality increase in the life of the elderly.</p> <p>After the course student will be able: describe and understand factors that affect the aging process and changes in aging process, describe and discuss methods and procedures of assessment and the following of changes in the aging process, describe and discuss special problems of the elderly, recognise elderly care models, actively participate in teamwork.</p> <p>Compulsory literature</p> <p>Despot Lucanin, J: Experience in Aging. Jastrebarsko: Naklada Slap. 2003.</p> <p>Havelka, M. and Despot Lucanin, J: Aging Psychology. In: Z. Durakovic et al. Medicina starije dobi (338-350). Zagreb: Naprijed. 1990.</p> <p>Recommended literature</p> <p>Schaie, K. W. and Willis, S. L.:Psychology of adults and elderly. Jastrebarsko: Naklada Slap. 2001.</p>
Literature:	
ECTS	<p>2 ECTS points represent the total academic course load consisting of 98 hours which include lecture attendance as prescribed by the study programme, preparing and taking part in methodical exercises, and satisfactory preparation and presentation of gained knowledge and skills through written and oral exams.</p>
Exam:	<p>Written and oral exam.</p>
Quality control:	<p>Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.</p>

23. 2. Basics of motoric transformations II

Course content:	<p>Acquiring knowledge of general laws of planning and programming of training in athletic activities for healthy individuals and realization of transformation processes under the influence of targeted motor structure activity; improvement of training status; transformation processes control.</p>
General and specific competencies:	<p>After the course student will be able to: analyse motoric movement stereotype and determine energy processes necessary for movement, determine motor tests based on motor structure analysis, conduct initial, transitive and final motor testing, adequately process and present the results of motor testing, form training plan and program based on motor testing results, implementation and control of kinesiology operators included in transformation process, direct individuals laws of planning of training for increasing motor skills, based on final motor testing results</p>
Literature:	<p>Compulsory literature</p>

	Findak, V.: Methodics of Physical and Health Culture, Manual for Physical and Health Culture Teachers, Skolska knjiga, Zagreb, 1999.
	Recommended literature
	Pearl, B., Moran, G. T.: Getting stronger. Shelter publications, inc., Bolinas, California, 2002.
ECTS	4 ECTS points represent the total academic course load consisting of 140 hours which includes preparing and taking part in methodical exercises, and satisfactory preparation and presentation of gained knowledge through a practical exam.
Exam:	Practical exam: demonstration of the implementation technique of kinesiology operators, which the student used in making, and implementation of the plan and programme of the transformational process.
Quality control:	Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

23. 3. Basics of occupational therapy

	Historical development of occupational therapy in Croatia and in the world. Croatian, European and world organizations of occupational therapy (HURT, ENOTHE, COTEC, WFOT)
Course content:	Role, scope of practice and function of occupational therapy within the transdisciplinary professional context. Philosophy of occupational therapy. Models
	and approaches in occupational therapy; terminology in occupational therapy; occupation and activity concept and their significance within occupational therapy.
	Self-health care within the therapeutic process. Introduction to the problematic approach of task management. Professional behaviour.
General and specific competencies:	After the course student will gain additional knowledge necessary for team collaboration and professional and responsible implementation of physiotherapy. After the course student will be able to: recognise the role of occupational therapy in clinical practice, differentiate models and approaches in occupational therapy, connect and apply the problematic approach in therapy procedure.
Literature:	Compulsory literature Simunovic, D.: Selected chapters from working therapy. Zagreb: School of Health Studies, 1998. Recommended literature

	Hagedorn, R.: Occupational therapy: foundations for practice; Models, frames of reference and core skills. London: Churchill Livingstone, 1992.
ECTS	3 ECTS points represent the total academic course load consisting of 84 hours, which include lecture attendance as prescribed by the study programme, preparing and taking part in practical exercises as well as satisfactory preparation and presentation of gained knowledge through written and oral exams.
Exam:	Written and oral exam.
Quality control:	Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Quality benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.

23. 4. Palliative care

Course content:	Definition and structure of palliative care, forms and places of implementation, goals and ideas of the hospice movement. Structure of teams and team members, procedures and forms of help provided in palliative care units within hospitals, outpatient service or home care for the affected individual in agreement with local health services and in permanent connection with the hospice in order to ensure the continuity of care.
General and specific competencies:	After the course student will gain additional knowledge necessary for team collaboration and professional and responsible implementation of physiotherapy. After the course student will be able to: define palliative care, differentiate forms and places of implementation, name team structure and the physiotherapist's role in it.
Literature:	Compulsory literature Ozimec, S.: Hospice and Palliative Care – teaching materials. Zagreb: School of Health Studies, 2003.
ECTS	3 ECTS points represent the total academic course load consisting of 84 hours which include lecture attendance as prescribed by the study programme, preparing and taking part in practical training as well as satisfactory preparation and presentation of gained knowledge through written and oral exams.
Exam:	Written and oral exam.
Quality control:	Quality of education is assessed via an anonymous questionnaire on the quality of course organisation, course content, lecturers and practical training staff. Course benefits, content, lecturer's preparedness, clarity of teaching, volume of new content and other factors are assessed. Study programme and its realisation are administratively monitored, and the number of students attending lectures and practical training is documented.