

SYLLABUS

for a cycle of education beginning in the academic year 2021/2022

Name of course / module	PEDIATRICS	
Names of departments where course are held	Department of Pediatrics and Nephrology, Department of Pediatrics, Endocrinology, Diabetology with Cardiology Unit, Department of Pediatrics, Gastroenterology, Hepatology, Nutrition and Allergology, Department of Pediatrics, Rheumatology, Immunology and Metabolic Bone Diseases, Department of Pediatric Oncology and Hematology, Department of Pediatric Infectious Diseases, Department of Medical Simulations, Department of Neonatology and Newborn Intensive Care.	
E-mail of department	Department of Pediatrics and Nephrology: iklinped@umb.edu.pl , Department of Pediatrics, Endocrinology, Diabetology with Cardiology Unit: 2klchdz@umb.edu.pl , Department of Pediatrics, Gastroenterology, Hepatology, Nutrition and Allergology: pegaz@umb.edu.pl , Department of Pediatrics, Rheumatology, Immunology and Metabolic Bone Diseases: pediatria@umb.edu.pl , Department of Pediatric Oncology and Hematology: onkdziec@umb.edu.pl , Department of Pediatric Infectious Diseases: kloz@umb.edu.pl , Department of Medical Simulations: symulacje@umb.edu.pl , Department of Neonatology and Newborn Intensive Care: neonatologia@poczta-usk.pl	
Faculty of	Medicine with Division of Dentistry and Division of Medical Education in English	
Name of field of study	medical	
Level of education	Uniform master's degree studies	
Form of study	full time ☒ part time ☐	
Language of instruction	Polish ☐ English ☒	
Type of course	obligatory ☒ facultative ☐	
Year of study / Semester	I ☐ II ☐ III ☒ IV ☒ V ☒ VI ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒ 6 ☒ 7 ☒ 8 ☒ 9 ☒ 10 ☒ 11 ☒ 12 ☒	
Introductory courses with preliminary requirements	Implementation of learning outcomes in terms of knowledge, skill sets and competencies of the previous years of study in the field of pediatrics	
Number of didactic hours with specification of forms of conducting classes	YEAR OF STUDY III: Total 85h: lectures – 28, seminars – 20, classes – 37 YEAR OF STUDY IV: Total 140h: lectures – 46, seminars – 19, classes – 75 YEAR OF STUDY V: Total 108h: lectures – 32, seminars – 20, classes – 53 YEAR OF STUDY VI: Total 120h: seminars – 20, classes – 100 (+ 180h of practical classes on Year VI as a chosen clinical course)	
Assumptions and aims of the course	Student should gain knowledge in: medical interview and physical examination of children, morphological and physiological differences in organs and systems, nutrition, immunoprophylaxis, child development, causes, symptoms, principles of diagnosis and treatment in childhood diseases. The student should be able to: carry out a medical interview and physical examination of a child, plan and interpret additional examinations, plan specialist consultations, establish diagnosis and treatment of childhood diseases, perform basic procedures and medical treatment. The aims of the subject teaching are: transfer of skills and knowledge, social competencies related to developmental diseases, including: epidemiology, etiology, clinical symptoms, diagnosis, differentiation diagnosis, treatment, preventive and rehabilitative measures.	
Didactic methods	- providing knowledge in a form of a lecture - seminar - discussion/classes - solving of practical clinical problems - discussion - analysis of clinical cases in a form of history of the disease - presentations of clinical cases - self-education - literature analysis - consultation hours. Department of Pediatrics and Nephrology: every second and fourth Tuesday of the month from 14:00 to 15:00.	

	Department of Pediatrics, Endocrinology, Diabetology with Cardiology Unit: every second and fourth Thursday of the month from 14.00 to 15.00. Department of Pediatrics, Gastroenterology, Hepatology, Nutrition and Allergology: every second Tuesday of the month from 14.00 to 15.00. Department of Pediatrics, Rheumatology, Immunology and Metabolic Bone Diseases: every second and fourth Wednesday of the month from 14.00 to 15.00. Department of Pediatric Oncology and Hematology: every first Tuesday of the month from 14.00 to 15.00. Department of Pediatric Infectious Diseases: every second Tuesday of the month from 14.00 to 15.00. Department of Medical Simulations: every Tuesday of the month from 14.00 to 15.00. Department of Neonatology and Newborn Intensive Care: every first Friday of the month from 14.00 to 15.00.
Full name of the coordinator conducting the course	Department of Pediatrics and Nephrology: Anna Wasilewska Professor, Agata Korzeniecka-Kozerska assistant professor, Katarzyna Taranta-Janusz assistant professor, Agnieszka Rybi-Szumińska MD, PhD, Piotr Protas MD, PhD, Elżbieta Kuroczycka-Saniutycz MD, PhD, Sylwia Marcinkiewicz – Rybołowicz, MD, PhD, Witold Olański MD, PhD, Wioletta Pawlak-Zalewska MD, PhD, Małgorzata Fedosiewicz-Wasiluk MD, PhD, Mariola Tałała MD, PhD, Iwona Bauer MD, PhD, Joanna Bagińska MD – doctoral studies, Katarzyna Werbel MD – doctoral studies. Department of Pediatrics, Endocrinology, Diabetology with Cardiology Unit: Artur Bossowski, Professor, Barbara Głowińska –Olszewska Professor, Jerzy Wójtowicz MD, PhD, Beata Sawicka MD, PhD, Hanna Borysewicz-Sańczyk MD, PhD, Agnieszka Polkowska MD, Anna Kadłubiska MD, Ewa Jakubowska MD, Milena Jamiołkowska-Sztabkowska MD, Klaudyna Noiszewska MD, Karolina Stożek MD. Department of Pediatrics, Gastroenterology, Hepatology, Nutrition and Allergology: Dariusz Lebensztejn Professor, Beata Cudowska assistant professor, Urszula Daniluk MD, PhD, Anna Bobrus-Chociej MD, PhD, Grzegorz Siergiejko MD, PhD, Monika Kowalczyk-Krystoń MD, Marta Flisiak- Jackiewicz MD, PhD, Artur Rycyk MD, Natalia Wasilewska MD - doctoral studies, Aleksandra Filimoniuk MD - doctoral studies, Karol Sienkiewicz MD – doctoral studies. Department of Pediatrics, Rheumatology, Immunology and Metabolic Bone Diseases: Jerzy Konstantynowicz Professor, Bożena Mikołuc associate professor, Ewa Zagórecka MD, PhD, Mariola Piotrowska-Depta MD, PhD, Radosław Motkowski MD, PhD, Paweł Abramowicz MD, PhD. Mark Klukowski MD, Maciej Stawicki MD – doctoral studies, Justyna Młyńczyk MD – doctoral studies. Department of Pediatric Oncology and Hematology: Maryna Krawczuk-Rybak Professor, Katarzyna Muszyńska –Roslan assistant professor, Małgorzata Sawicka-Zukowska MD, PhD, Eryk Latoch MD, PhD, Anna Krętowska-Grunwald MD, Agnieszka Kania MD - doctoral studies, Katarzyna Konończuk MD – doctoral school Department of Pediatric Infectious Diseases: Artur Sulik assistant professor, Dorota Rożkiewicz assistant professor, Kacper Toczyłowski MD, PhD, Paulina Potocka MD, Ewa Bojkiewicz MD – doctoral studies, Marta Wozińska-Klepadło MD – doctoral studies. Department of Medical Simulations: Włodzimierz Łuczyński Professor. Department of Neonatology and Newborn Intensive Care: Marek Szczepański assistant profesor, Barbara Juchnicka MD, PhD, Edyta Bielska MD.
Full name of the person responsible for teaching	Dariusz Lebensztejn - Professor – teaching coordinator Heads of clinics / establishments in individual teaching units

Symbol and number of learning outcomes according to the teaching standards and other learning outcomes	Description of directional learning outcomes	Form of classes	Verification methods for achieving intended learning outcomes
Knowledge			
E.W1	The student knows: environmental and epidemiological backgrounds for most common diseases;	Lectures Seminars	<u>Summarizing methods</u> <u>e.g.:</u>

		Classes	- oral exam - written exam (test - forms, descriptive examination - an essay, report, SSQ, etc.) <u>Forming methods, e.g.:</u> - observation of the student's work - pretest - evaluation of the activity in the classroom - completion of each activity - assessment of preparation for classes - discussion in class - partial tests - preliminary tests - case description
E.W2	The graduate knows: principles of nutrition of healthy and ill children, breast feeding, prophylactic vaccination, keeping healthy balance of a child;	Lectures Seminars Classes	
E.W3	The graduate knows: causes, symptoms and principles of diagnostic and therapeutic procedures for most common children diseases, such as: 1) rickets, tetany, convulsions, 2) heart defects, myocarditis, endocarditis and pericarditis, cardiomyopathy, cardiac arrhythmias, heart failure, hypertension, syncope 3) acute and chronic diseases of the upper and lower respiratory tract, birth defects of the respiratory system, tuberculosis, cystic fibrosis, asthma, allergic rhinitis, urticaria, anaphylactic shock, angioedema 4) anemia, hemorrhagic diathesis, bone marrow failure, childhood neoplasms, including solid tumors typical for childhood, 5) acute and chronic abdominal pain, vomiting, diarrhea, constipation, gastrointestinal bleeding, peptic ulcer disease, inflammatory bowel disease, pancreas disease, cholestasis and liver disease other acquired diseases and birth defects of the gastrointestinal tract, 6) urinary tract infections, congenital anomalies of the urinary tract, nephrotic syndrome, kidney stones, acute kidney injury acute chronic kidney disease, acute and chronic acute nephritis, systemic diseases with renal manifestations, micturition disorders, vesicoureteral reflux 7) growth disorders, thyroid and parathyroid diseases, adrenal gland disorders, diabetes, obesity, puberty and gonadal function disorders 8) cerebral palsy, encephalitis, meningitis, epilepsy 9) the most common infectious diseases of childhood, 10)genetic disorders, 11) connective tissue diseases, rheumatic fever, juvenile arthritis, systemic erythematosis, dermatomyositis	Lectures Seminars Classes	
E.W4	knows the issues: sexual abuse, mental retardation, behavioral disorders: addiction, eating disorders and excretion in children	Lectures Seminars Classes	
E.W6	knows the most common children life threatening conditions and rules of management in these conditions	Lectures Seminars Classes	
E.W34	knows and understands causes, symptoms and principles of diagnosis and therapeutic or preventive procedures of the most common bacterial, viral and parasitic diseases, mycosis, included pneumococcal infection, virus hepatitis, AIDS, sepsis and hospital-acquired infections;	Lectures Seminars Classes	
E.W37	knows and understands causes, symptoms and principles of diagnosis and therapeutic of the most common children diseases	Lectures Seminars Classes	
Skills			
E.U2	conducting a medical interview with a child and the family;	Classes, seminars, solving of practical clinical problems	<u>Summarizing methods e.g.:</u> - oral exam - written exam (test - forms, descriptive examination - an essay, report, SSQ, etc.) <u>Forming methods, e.g.:</u> - observation of the
E.U4	conducting a physical examination of a child of every age;	as above	
E.U7	evaluating patient’s general condition, consciousness and awareness;	as above	
E. U8	assesses the condition of the newborn on the Apgar score, assesses its maturity, examines neonatal reflexes	as above	
E.U9	comparing anthropometric measures and blood pressure	as above	

	measures with centile chart data; ;		student's work - pretest - evaluation of the activity in the classroom - completion of each activity - assessment of preparation for classes - discussion in class - partial tests - preliminary tests - case description
E.U10	evaluating the process of sexual maturation	as above	
E.U11	conducting check-up	as above	
E.U12	conducting differential diagnoses of most common adult and children diseases;	as above	
E.U13	evaluating and characterizing somatic and psychic conditions of a patient;	as above	
E.U14	recognizing emergency medical conditions;	as above	
E.U16	planning diagnostic, therapeutic and preventive procedures;	as above	
E.U17	conducting analysis of unwanted drug effects and drug-drug interactions;	as above	
E.U18	proposing individualization of compulsory therapeutic standards or other methods of treatment in case of therapeutic inefficiency or contraindication to a regular therapy;	as above	
E.U21	dealing with a situation in which the patient's remaining time of life, health condition or preferences affects the required standard procedures;	as above	
E.U24	Interpreting laboratory results and identifying causes of differences from norm	as above	
E.U25	applying a nutrition therapy: enteral and parenteral nutrition	as above	
E.U27	qualifies patients to vaccination	as above	
E.U29	Performing basic medical procedures such as: 1) body temperature measurement (surface and deep), heart rate measurement, noninvasive blood pressure measurement, 2) monitoring of vital signs with a cardio monitor, pulse oximetry, 3) spirometry, 5) intravenous, intramuscular and subcutaneous injection, peripheral vein cannulation, peripheral venous blood sampling, blood culture sampling, arterial blood collection, arterialized blood sampling, 7) bladder catheterization, gastric aspiration, gastric lavage, enema, 8) standard resting electrocardiogram and interpretation 9) simple strip tests and blood glucose assessment	classes	
E.U30	Assisting at the following medical procedures: 1) blood and blood derivatives transfusion, 5) lumbar puncture, 6) thin-needle biopsy, 7) epidermal tests, 8) intradermal and scarification tests and interprets result,	Practical classes	
E.U32	can plan specialist consultations,	Practical classes	
E.U38	can fill in medical documentation.	Practical classes	
Social competence			
K1	respects physician-patient privilege and patients' rights	Practical classes	Summarizing methods eg.: - assessment by the assistant (observation)
K2	is able to establish and maintain deep and respectful contact with the patient, as well as to understand the ideological and cultural differences	Practical classes	
K3	is guided by the well-being of the patient	Practical classes	
K4	is aware of and recognizes its own limitations and conducts self-assessments of educational deficits and needs	Practical classes	Forming methods - observation of the student's work
K5	undertakes actions towards the patient based on ethical principles, with the awareness of social conditions and	Practical classes	

	restrictions resulting from a disease		- discussion in class - opinion of patients and colleagues
K6	promotes health-promoting behavior	Practical classes	
K7	uses objective sources of information	Practical classes	
K8	draws conclusions from his/her own measurements or observations	Practical classes	
K9	implements the principles of professional companionship and cooperation in a team of specialists, including representatives of other medical professions in a multicultural and multinational environment	Practical classes	
K10	formulates opinions on various aspects of professional activity	Practical classes	
K11	accepts responsibility related to decisions taken as part of professional activities, including one's own other people's safety	Practical classes	

ECTS points	III year – 6; IV year – 6, V year – 5, VI year – 8;	
Student Workload		
Form of activity	Number of hours to complete the activity	
Classes that require the participation of a teacher		
1. Realization of the course: lectures (according to the curriculum)	106	
2. Realization of the course: classes (according to the curriculum)	265	
3. Realization of the course: seminars; (according to the curriculum)	79	
4. Realization of the course: electives	----	
5. Participation in consultation	10	
	Total hours: 460	
Student self-study		
1 ECTS point means 25-30 hours of student work in a variety of forms, such as:		
1. Preparation for the theoretical and practical classes (realization of projects, documentation, case description etc.)	174h	
2. Preparation for tests/credits	60h	
3. Preparation for an exam/final test-credit	100h	
	Total: 334h	

Course content:	
Educational outcomes (symbol and number)	Subjects
Department of Pediatrics, Rheumatology, Immunology and Metabolic Bone Diseases – 3rd YEAR:	
E.W1, E.W2, E.W3/1, E.W3/10, E.W3/11, E.W4, E.W6, E.W37	LECTURES: 1) Introduction to Pediatrics. General issues and terms related to child care, ethical issues in pediatrics, basic information on pediatric services; outline of diagnostic guidelines and therapeutic standards in modern pediatrics (2h). 2) Assessment of psychomotor development in infants and children: gross motor, fine motor, sensory functions, perception and vision, social development Diagnosis of delayed psychomotor development (2h). 3) Updated approach to the nutrition of healthy children. Breastfeeding and complementary nutrition in infancy and childhood (2h). 4) Principles of immunoprophylaxis (1): General recommendations for vaccinations, objectives and indications to vaccinations; the classification: types of vaccines; techniques of vaccine administration (2h). 5) Principles of immunoprophylaxis (2): Immunization schedule: mandatory and recommended optional vaccinations; vaccination in risk groups, post-exposure prophylaxis (2h). 6) Puberty – physiology and clinical features; major health-related problems in adolescent medicine (2h). 7) Eating disorders: <i>anorexia nervosa</i>, <i>bulimia nervosa</i> (2h).

	8) Vitamin D metabolism and clinical significance of vitamin D deficiency during growth. Some aspects of bone and mineral metabolism in infancy and childhood, including rickets and juvenile osteoporosis (2h). 9) Child abuse (Maltreated / neglected child syndrome): medical, social and legal considerations. Fetal alcohol syndrome (FAS) (2h). 10) Pathogenesis and clinical presentation of selected metabolic disorders in pediatrics: a general overview (2h). 11) Modern approach to treatment of primary immunodeficiencies. Practical guidelines to diagnosis and management (2h). 12) Basic principles and overview of the management in pediatric rheumatic diseases (2h).
E.W1, E.W2, E.W3, E.W4, E.W37 E.U7, E.U9, E.U10, E.U11, E.U12, E.U13, E.U14, E.U16, E.U17, E.U18, E.U21, E.U24, E.U27	SEMINARS: 1) History taking and physical examination in pediatrics: safety rules, verbal and nonverbal communication doctor–patient relationship in pediatric care; principles of proper physical examination in pediatric patients (2h). 2) Assessment of physical development: methods, outcome measures, algorithms and clinical interpretation of anthropometry in pediatrics (2h). 3) Pediatric symptomatology / general semiotic in pediatrics and significance of essential clinical signs and symptoms in children – p.1 (2h). 4) Pediatric symptomatology / general semiotic in pediatrics and significance of essential clinical signs and symptoms in children – p.2 (2h). 5) Practical aspects of immunoprophylaxis and immunization (2h). 6) Neonatal screening onto inborn errors of metabolism, and selective metabolic screening in infancy: how, when, and whom? (2h). 7) Etiology, pathogenesis and clinical presentation of juvenile arthritis / arthropathy in children (2h). 8) Etiology, pathogenesis and clinical presentation of systemic connective tissue diseases (systemic lupus erythematosus, dermatomyositis, systemic scleroderma), and vasculitis (Henoch-Schoenlein purpura, Kawasaki disease, rheumatic fever) in children (2h). 9) Seizures in children: classification and clinical presentation; diagnostic clues (2h). 10) Clinical manifestation of the most common primary immunodeficiency (PID): Evaluation, red flags, and diagnosis (2h).
E.W1, E.W2, E.W3, E.W6, E.W37 E.U2, E.U4, E.U7, E.U9, E.U10, E.U11, E.U12, E.U13, E.U14, E.U16, E.U17, E.U18, E.U21, E.U24, E.U27, E.U29, E.U32, E.U38 K1, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11	CLASSES: 1) History taking in pediatrics. The principles of pediatric medical records and casebook (2h). 2) Practical aspects of clinical antropometry. Using of growth charts (2h). 3) Physical examination: general somatic condition, Assessment of vital signs in pediatrics – practical aspects. Physical examination: skin, hair and nails, nutritional status, lymph nodes (2h). 4) Physical examination: head and neck, thyroid (2h). 5) Physical examination: review of the respiratory system (4h). 6) Physical examination: heart; cardiovascular system (3h). 7) Physical examination: abdomen including urogenital system (3h). 8) Physical examination: Evaluation of significant neurological signs in children (2h). 9) Comprehensive practical approach to vaccinations, how to compose special individualized immunization schedule; facts and myths on vaccines, indications and contraindications to vaccinations: how to discuss difficult issues and parental concerns in the topic of vaccinations (2h). 10) Principles of conducting and recording pediatric screening. Check-up of well-being child. Evaluation of case series (2h). 11) Diagnostic approach and general management of

	arthritis/arthropathies in children; juvenile idiopathic arthritis. Evaluation of case series (2h). 12) Diagnostic approach, and treatment modalities in pediatric systemic connective tissue diseases and systemic vasculitis. Evaluation of case series (2h). 13) Diagnostic and therapeutic approach in febrile seizures. Emergency cases including seizure event in a febrile child. The management / algorithms in status epilepticus. Evaluation of case series (2h). 14) Diagnostic principles and therapeutic approach to most frequent primary immune deficiency syndromes in children. Evaluation of case series (2h).
Department of Neonatology and Newborn Intensive Care - 3rd YEAR:	
E.W1, EW2, E.W37	LECTURES: 1) Newborn examination, newborn transitional period (2h). 2) Breastfeeding, the most common breastfeeding problems (2h).
E.W1, EW2, E.W3, E.W37 E.U4, E.U8, E.U9 K1, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11	CLASSES: 1) Physical examination of the newborn, neurological evaluation (4h).
Department of Pediatrics and Nephrology – 4th YEAR:	
E.W1, E.W2, E.W3/3, E.W3/6, E.W6, E.W34	LECTURES: 1) Urinary tract infection in children (1h). 2) New guidelines for dealing with a child with urinary tract infections (1h). 3) Congenital defects of urinary tract (1h). 4) Vesico-ureteral reflux (1h). 5) Proteinuria in pediatric patient (1h). 6) Nephrotic syndrome in children (1h). 7) Pediatric hematuria diagnosis and treatment (1h). 8) Glomerulonephritis (1h). 9) Viral and bacterial infections of the upper respiratory tract in children (1h). 10) Acute diseases of the lower respiratory tract (1h). 11) Respiratory Tract Infections, Pediatric Treatment Recommendations (2h).
E.W1, E.W2, E.W3/3, E.W3/6, E.W34	SEMINARS: 1) Symptomatology of the respiratory system (cough, dyspnoea, wheezing, apnea, hemoptysis) (1h). 2) Causes, symptoms, diagnostic and management rules in pneumonia in children (pneumonia, etiology of hospital-acquired and non-nosocomial pneumonia, pneumonia classification based on etiology, symptoms and management of lobular pneumonia, bronchopneumonia and interstitial pneumonia, pleuritis – causes, symptoms, diagnostics and management (1h). 3) Chronic diseases of the respiratory system (congenital defects of the respiratory system, cystic fibrosis, tuberculosis) (1h). 4) Acute pyelonephritis, cystitis - clinical picture, factors predisposing to recurrent urinary tract infections, the most common defects of the urinary system (1h).
E.W1, E.W2, E.W3/3, E.W3/6, E.W6, E.W34 E.U2, E.U4, E.U7, E.U9, E.U10, E.U12, E.U13, E.U16, E.U24, E.U29/1, E.U29/2, E.U29/7, E.U30/6, E.U32, E.U38 K1, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11	CLASSES: 1) Discussion of the diagnosis and management of a child with respiratory symptoms based on patients hospitalized in the Clinic or medical records of hospitalized patients (1h). 2) Discussion of clinical cases of patients with acute respiratory tract inflammation (colds, pharyngitis, streptococcal angina, laryngitis, tracheitis, bronchiolitis, bronchitis) (2h). 3) Discussion of diagnostics and therapeutic management of pneumonia in children; discussion of clinical cases of lobular pneumonia, bronchopneumonia, interstitial pneumonia and pleuritis on the basis of patients hospitalized at the Clinic or medical records of hospitalized patients (4h). 4) Discussion of clinical cases of patients with chronic disease of

	respiratory system (congenital defects of the respiratory system, cystic fibrosis, tuberculosis) based on patients hospitalized at the Clinic or medical records of hospitalized patients (4h). 5) Discussion of the diagnosis and management of a child with acute pyelonephritis, cystitis, recurrent urinary tract infections based on the analysis of medical records of patients under the care of the Nephrology Department and Out-Patient Clinic, examination of patients in the ward - analysis of factors predisposing to urinary tract infection (4h). 6) Classes at the Department of Medical Simulations (3h): 1. Interview and physical examination of a child with respiratory diseases. 2. Anomalies in the history, physical examination and additional tests in a child with respiratory diseases. 3. Basic procedures realized in children during hospitalization.
Department of Pediatrics, Endocrinology, Diabetology with Cardiology Unit – 4th YEAR:	
E.W1, E.W2, E.W3/2, E.W3/7, E.W3/10. E.W6, E.W37	LECTURES: 1) Thyroid disease: hyperthyroidism (1h). 2) Thyroid disease: hypothyroidism (1h). 3) Simple goiter in children (1h). 4) Cushing Syndrome (1h). 5) Precocious puberty (1h). 6) Parathyroid diseases in children (1h). 7) Poliendocrinopathies in children (APS syndromes) (1h). 8) Multiple endocrine syndromes (MEN syndromes) (1h). 9) Diabetes in children – pathogenesis (1h). 10) Diabetes in children – future perspectives (1h). 11) Diabetes in children – late complications (1h). 12) Metabolic syndrome (1h). 13) Monogenic forms of diabetes (1h). 14) heart failure in children (1h). 15) Myocarditis (1h). 16) Endocarditis. Pericarditis (1h). 17) Dysrhythmias part 1. (1h). 18) Dysrhythmias part 2. (1h). 19) Cardiomyopathies (1h). 20) Electric heart disorders (1h).
E.W1, E.W2, E.W3/2, E.W3/7, E.W6, E.W37 E.U12, E.U16, E.U17, E.U18, E.U32	SEMINARS: 1) Diabetes in children – type 1, type 1, MODY, LADA introduction (1h). 2) Emergency situations in pediatric endocrinology and diabetology (1h). 3) Treatment of diabetes in children. Basic schemes of pens insulin therapy and continuous subcutaneous insulin infusion – insulin pumps (1h). 4) Pituitary diseases in children (1h). 5) Thyroid nodules and thyroid carcinoma n children (1h). 6) ECG – pediatric differences (1h). 7) Congenital heart diseases part I - Ductus arteriosus dependent CHD (1h). 8) Congenital heart diseases part II (1h). 9) Chest pain - Do children have myocardial infarctions? (1h). 10) Heart murmurs – Is it all congenital heart disease? (1h).
E.W1, E.W2, E.W3/2, E.W3/7, E.W6, E.W37 E.U2, E.U4, E.U7 E.U8, E.U9, E.U10, E.U11, E.U12, E.U13, E.U14, E.U16, E.U17, E.U18, E.U24, E.U29/1, E.U29/2, E.U29/8, E.U29/9, E.U32, E.U38 K1, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11	CLASSES: Endocrinology and Diabetology Course 1) Growth hormone insufficiency. Primary IGF-1 insufficiency. Pathogenesis, diagnosis and treatment (2,8h). 2) Adrenal diseases (congenital adrenal hyperplasia, primary adrenal insufficiency – Addison disease) (2,8h). 3) Diabetic ketoacidosis (2,8h). 4) Hypoglycemia (2,8h). 5) Ambulatory care in endocrinology and diabetology (2,8h). Cardiology Course 1) Indications to echocardiography, general principles and diagnostic opti

	(2,8h). - Echocardiography in congenital heart diseases (2,8h). - Practical classes in pediatric ECG (2,8h). - Stress test. Holter. Indications. Principles of the methods. Contradictions (2,8h). - Hypertension in children (2,8h).
Department of Pediatric Infectious Diseases – 4th YEAR:	
E.W1, E.W2, E.W3/8, E.W3/9, EW6, E.W34	LECTURES: - Nosocomial infections in children (1h). - Prevention of hospital acquired infections – hand hygiene, types of isolation (1h). - Emerging pediatric infectious diseases (1h). - Traveling with children (1h). - Invasive meningococcal and pneumococcal diseases (1h). - Tick-borne diseases: Lyme disease, Tick Borne Encephalitis (TBE) (1h). - Pertussis in vaccinated and unvaccinated children (1h). - Influenza and viral acute respiratory infections in children. Pediatric tuberculosis (1h). - Lymphadenopathy in children. Infectious mononucleosis(1h). - Pediatric HIV infection, prevention of mother-to-child transmission (1h).
E.W1, E.W3/8, E.W3/9, E.W6, E.W34, E.U7, E.U12, E.U16, E.U17, E.U24, E.U32	SEMINARS: - Management of pediatric acute gastroenteritis (1h). - Viral rash diseases in children (chickenpox, erythema infectiosum, erythema subitum, HSV infections, measles, HFMD) (1h). - Bacterial rash diseases in children (GAS infections, Staphylococcal infections) (1h). - Neuroinfections in children (enteroviruses, HSV, Listeria, purulent and fungal meningitis) (1h). - Parasitic disorders (toxoplasmosis, toxocarosis, ascariasis, oxyuriasis, giardiasis, scabies, lice) (2h).
E.U2 E.U4, E.U7, E.U12, E.U13, E.U14, E.U16, E.U17, E.U18, E.U24, E.U27, E.U29, E.U30/5, E.U32, E.U38 K1, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11	CLASSES: - Diarrhea in children – diagnosis and treatment: oral rehydration therapy, intravenous therapy, management of metabolic acidosis and electrolyte imbalance (4h). - Viral infections in children: physical examination, differential diagnosis (4h). - Bacterial diseases in children: differential diagnosis, antibiotic therapy (4h). - Neuroinfections in children: symptoms, workup, treatment. Lumbar puncture, Cerebrospinal fluid examination (6h). - Pediatric parasitic infections: symptoms, workup, treatment (4h).
Department of Neonatology and Newborn Intensive Care - 4rd YEAR:	
E.W1, EW2, E.W6, E.W34, E.W37	LECTURES: - Preterm newborn baby (2h). - Pathology of the neonatal period (2h).
E.W1, EW2, E.W6, E.W34, E.W37 E.U4, E.U8, E.U9, E.U12, E.U13, E.U14 K1, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11	CLASSES: - Nutrition of premature newborns (2h). - Physical examination of the preterm newborn (2h). - Management of perinatal asphyxia (3h).
Department of Pediatrics, Gastroenterology, Hepatology, Nutrition and Allergology – 5th YEAR:	
E.W1, E.W2, E.W3/3, E.W3/5, E.W6, E.W32, E.W37	LECTURES: - Allergy and food intolerance (2h). - Bronchial asthma Allergic rhinitis (2h). - Chronic hepatitis (viral, autoimmune, NAFLD, metabolic) (2h). - Selected aspects of hyperbilirubinemia (cholestasis, functional hyperbilirubinemia, selected liver metabolic diseases) (2h). - Gallstones and bile ducts. Diseases of the pancreas (2h). - Cirrhosis and liver failure (acute, chronic). Portal hypertension (2h). - Inflammatory bowel diseases (2h).

	8) Eosinophilic gastroenteritis. Colon polyps (2h). 9) Celiac disease and other diseases associated with gluten. Chronic diarrhea (2h). 10) Upper and lower gastrointestinal bleeding (1h). 11) Peptic ulcer disease. Gastritis. Helicobacter pylori infection (1h). 12) Functional gastrointestinal disorders (Criteria Roman IV (2h).
E.W1, E.W2, E.W3/3, E.W3/5, E.W37 E.U7, E.U13, E.U14, E.U16, E.U17, E.U25	SEMINARS: 1) Gastrointestinal manifestation of cystic fibrosis and nutrition recommendations in CF (1h). 2) Atopic dermatitis. Urticaria (1h). 3) Gastroesophageal reflux disease in children. Achalasia (1h). 4) Children's feeding disorders (1h). 5) Anaphylaxis. Insect sting allergies (1h). 6) Foreign bodies of the GI tract. Chemical injuries of the esophagus (1h). 7) Pulmonary function tests - obtaining and interpretation (1h). 8) Principles of enteral and parenteral nutrition in children (1h).
E.U2, E.U4, E.U7, E.U9, E.U12, E.U13, E.U16, E.U18, E.U.24, E.U25, E.U30g,h, E.U32, E.U38, K1, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11	CLASSES: 1) Tests in the diagnosis of allergic diseases. Oral food challenges (2,5h). 2) Elimination diets. Medical reasons for use of breast-milk substitutes (2,5h). 3) Abdominal pain (2,5h). 4) Vomiting (2,5h). 5) Constipation (2,5h). 6) Hypertransaminasemia (2,5h). 7) Chronic diarrhea (2,5h). 8) Upper gastrointestinal bleeding (2,5h). 9) Lower gastrointestinal bleeding (2h). 10) Guidelines for performance and interpretation of GI tract function tests (2h).
Department of Pediatric Oncology and Hematology – 5th YEAR:	
E.W1, E.W2, E.W3/4, E.W6, E.W34	LECTURES: 1-2) Childhood anemias (2h). 1. deficiency anemias 2. hemolytic anemias and bone marrow failure. 3) Hemorrhagic diathesis in children, thrombocytopenia, clotting factors deficiencies, vessels disturbances (1h). 4) Childhood leukemia (1h). 5) Hodgkin and non-Hodgkin lymphomas in children (1h). 6-9) Childhood solid tumours: 6-7) Nephroblastoma, neuroblastoma, hepatoblastoma, gonadal tumors (2h). 8-9) Tumours of central nervous system, bone tumours, soft tissues sarcomas (2h). 10) Long-term side effects after antineoplastic treatment in children (1h).
E.W1, E.W2, E.W3/4, E.W6, E.W34 E.U2, E.U4, E.U7, E.U10, E.U12, E.U14, E.U16, E.U17, E.U18, E.U21, E.U24, E.U27	SEMINARS: 1) Symptomatology of childhood malignancies (1h). 2) Epidemiology of childhood malignancies (1h). 3) Emergencies in paediatric oncology (1h). 4) Early complications after antineoplastic treatment in childhood (1h). 5) Practical aspects of anemia treatment in children (1h). 6) Hypercoagulation in children (1h). 7) Leukopenia and neutropenia- causes, diagnostics, treatment (1h).
E.U2, E.U4, E.U7, E.U9, E.U10, E.U11, E.U12, E.U13, E.U14, E.U16, E.U17, E.U18, E.U21, E.U24, E.U25, E.U27, E.U29/5, E.U30/1, E.U30/6, E.U32, E.U38 K1, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11	CLASSES: 1) Organization of the department of pediatric oncology and hematology (including outpatient unit, principles of protective isolation in patients with neutropenia) (1h). 2) Medical history and physical examination in pediatric oncology and hematology, when to suspect childhood cancer? (5h). 3) Interpretation of laboratory and radiological findings in childhood

	malignancies (3h). 4) Differential diagnostics in pediatric oncology (4h). 5) Principles of antineoplastic treatment and supportive care in pediatric oncology (1h). 6) Observation and care of a child during and after antineoplastic therapy (4h). 7) Outpatient care of a child during antineoplastic treatment (2h). 8) Analysis of the diagnostic and therapeutic process of patients hospitalized in the department due to cancer and hematological diseases (2h). 9) Taking medical interview from parents and patients, and physical examination of the patients currently hospitalized at the department of pediatric oncology and hematology (5h). 10) Monitoring of health status in long-term survivors after antineoplastic treatment (1h). 11) Principles of care of child with hemophilia (1h).
Department of Pediatrics and Nephrology – 6th YEAR:	
E.W1, E.W2, E.W3/6 E.U2, E.U4, E.U7, E.U9, E.U10, E.U12, E.U13, E.U16, E.U24, E.U29/1, E.U29/2, E.U29/3, E.U29/5, E.U29/7, E.U30/6, E.U32, E.U38 K1, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11	CLASSES: 1) Urinary tract infection and voiding disorders in children - Pathogenesis, epidemiology, clinical symptoms, diagnostic and therapeutic procedures in urinary tract infections and the most common disorders of urination in children (primary bedwetting, secondary urination disorders, neurogenic bladder, overactive bladder). Principles of performing urodynamic examination, uroflowmetry, urotherapy (5h). 2) Diagnostic and therapeutic standards of treatment in a child with hematuria, proteinuria in the course of glomerulonephritis, nephrotic syndrome, genetically determined kidney diseases - analysis of medical records of patients under the care of the Nephrology Department and Out-Patient Clinic, examination of patients in the ward - writing epicrisis, determining the further treatment plan of the patient (5h). 3) Diagnostic and therapeutic standards in a child with arterial hypertension of renal origin and renovascular hypertension - analysis of medical records of patients under the care of the Nephrology Department and Out-Patient Clinic, examination of patients in the ward, analysis of Ambulatory Blood Pressure Monitoring (5h). 4) Diagnostic and therapeutic standards in a child with acute renal failure and chronic kidney disease on the basis of medical records of patients under the care of the Nephrology Department and Out-Patient Clinic, examination of patients present in the ward, familiarization with the functioning of dialysis centers for children and the peritoneal dialysis and hemodialysis rules (5h). 5) Use of laboratory tests in nephrology. Detailed discussion of laboratory and radiological tests for nephrology (interpretation of urinalysis, urine culture, peripheral blood morphology, renal function parameters, inflammatory parameters, ultrasound, radiological, scintigraphic and pathomorphological tests in nephrological diagnostics). Urolithiasis; diagnostic and therapeutic standards in of renal colic in children. - classes at the Department of Medical Simulations (4h). 6) Emergency conditions in pediatrics related to water and electrolyte disturbances (rules of treatment with fluids - hypotonic, hypertonic and isotonic dehydration, management of hyponatremia, hypernatremia, hypokalemia and hyperkalemia - based on hospitalized patients or medical records. - classes at the Intensive Care Unit of the University Children's Clinical Hospital (3h). 7) Principles of dealing with a pediatric trauma patient at the Children's Trauma Center, treatment of acute poisoning in children, management of selected emergencies in children (cardiac arrest, respiratory failure, convulsions, shock) - classes at the Emergency Department or Night Medical Assistance (NPL) of the University Children's Clinical

	Hospital in the afternoon (on duty) (5h).
Department of Pediatrics, Endocrinology, Diabetology with Cardiology Unit – 6th YEAR:	
E.W1, E.W2, E.W3/2, E.W3/7, E.W6, E.W37 E.U2, E.U4, E.U7, E.U9, E.U10, E.U11, E.U12, E.U13, E.U14, E.U16, E.U17, E.U18, E.U24, E.U29/1, E.U29/2, E.U29/8, E.U29/9, E.U32, E.U33, E.U38 K1, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11	CLASSES: 1) Endocrinology. Sex differentiation disorders in children. What should young doctor know? (6,25h). 2) Diabetology. Practical classes in pediatric diabetology: a) Screening tests for complications and additional diseases, b) insulin therapy modification with pens and pumps, c) treatment of diabetic ketoacidosis and hypoglycemia (6,25h) – do it yourself. 3) Cardiology. Syncope – symptoms, reasons, treatment. Cardiology diagnostics of a child with consciousness disorders (6,25h). 4) Cardiology. Cardiac insufficiency in children. Reasons, symptoms, treatment. Analysis of clinical cases (6,25h).
Department of Pediatrics, Gastroenterology, Hepatology, Nutrition and Allergology – 6th YEAR	
E.W1, E.W2, E.W3e, E.W4, E.U2, E.U4, E.U7, E.U12, E.U14, E.U16, E.U17, E.U18, E.U21, E.U24, E.U25, E.U32, E.U38, K1, K2, K4, K5, K6, K7, K8, K9, K10, K11	CLASSES: 1) Drug allergy, cross-sensitivity contact allergy Asthma and asthmatic state. Angioedema (6h). 2) Pediatric gastrointestinal endoscopy - background, indications, contraindications, general principles of endoscopic imaging (6h). 3) Celiac disease. Other gluten related disorders. Protein-losing enteropathy (6h). 4) Crohn disease. Ulcerative colitis (6h). 5) Jaundice, cholestasis (6h). 6) Malnutrition in gastrological, hepatological and allergic diseases (5h).
Department of Pediatric Infectious Diseases – 6th YEAR:	
E.W1, E.W3/9, E.W6, E.W34 E.U7, E.U12, E.U16, E.U17, E.U24, E.U32	SEMINARS (SOLVING OF PRACTICAL CLINICAL PROBLEMS): 1) A child with rash – differential diagnosis (1h). 2) A child with fever – differential diagnosis (1h). 3) Congenital toxoplasmosis and congenital cytomegalovirus infection (1h).
Department of Neonatology and Newborn Intensive Care - 6rd YEAR:	
E.W1, EW2, E.W6, E.W34, E.W37 E.U4, E.U8, E.U9, E.U12, E.U13, E.U14 K1, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11	CLASSES: 1) Analyses of the perinatal interview, physical examination of the newborn; analysis of biochemical test results; differential diagnosis of newborn diseases; dietary, pharmacological and specialist treatment (11h).
E.W1, EW2, E.W6, E.W34, E.W37 E.U4, E.U8, E.U9, E.U12, E.U13, E.U14 K1, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11	SEMINARS (SOLVING OF PRACTICAL CLINICAL PROBLEMS): 1) The most common problems in the neonatal period after discharge from the hospital (lactose intolerance, infantile colic, gastroesophageal reflux) (2h). 2) Caring for a premature baby discharged home (1h). 3) The most common lactation problems (2h). 4) Neonatal hypoglycemia (2h).
Department of Medical Simulations – 6th YEAR:	
E.W3, E.W6 E.U2, E.U4, E.U7, E.U12, E.U14, E.U15, E.U16. E.U17, E.U18, E.U24, E.U29, E.U32, E.U38	CLASSES: 1) Dyspnoe in infants and children, asthma (2h). 2) Dysrhythmias in children (1h). 3) Fever and seizure, sepsis, septic shock in children (1h). 4) Congenital heart diseases (1h). 5) Electrolyte / fluid imbalance and acid-base disturbances in neonates and infants (1h). 6) Inherited metabolic disorders (1h). Practical classes are conducted as the participation in the scenarios of high-

fidelity medical simulation. Students will play their roles as the participants of multidisciplinary team, taking care of the patient. After running the scenario students (with the teacher) will comment the scenario, standards in diagnostics and treatment, including conclusions for their future. Each class will begin with the assessment of students' knowledge, then running the scenario and debriefing at the end.

Obligatory textbook:

Tom Lissauer and Will Carroll, Illustrated Textbook of Paediatrics, 5th Ed. Elsevier 2017.

Criteria for assessing the achieved learning outcomes and the form and conditions for receiving credit:

YEARS III-V

- A. To attend and complete all pediatric classes, lectures and seminars (taking into account e-learning):
Only one justified absence (see: point 19 of the Regulations) from seminar or clinical lab per one semester is allowed, without obligation to work the absence out. Student having more than one justified absence per one semester is entitled to an individual completing of the practical classes and seminars, preferably with another group (or, if not possible, in another mode determined by the head of the department), yet until the end of ongoing semester.
- B. To pass the credit test: The form of the credit test will be determined by the head of a given pediatric department (oral exam, written exam or multiple-choice test etc.), and will be announced before the beginning of the academic year. If the pediatric course is carried out in several pediatric departments in a given year, student must pass the credit test in each department independently.

YEAR VI

To attend all clinical labs, and practical solving of clinical problems classes (PSCP) conducted by each of the pediatric departments (taking into account e-learning): Only one justified absence (see: the point 19 of the Regulations) from clinical lab per one semester is allowed, without obligation to work the absence out. Student having more than one justified absence per one semester is entitled to an individual completing of the practical classes and seminars, preferably with another group (or, if not possible, in another mode determined by the head of the department). Any absence from PSCP classes must be worked-out with another group (or, if not possible, to receive a credit from the teacher/assistant leading the PSCP class/es).

Regulations and legal provisions for the Final Exam in Pediatrics.

A. Opening remarks and general arrangements

- 1) Exam in Pediatrics on the 6th year will be conducted as a multiple-choice test.
- 2) The suggested reading and basic textbook: Tom Lissauer and Will Carroll, Illustrated Textbook of Paediatrics, 5th Ed. Elsevier 2017.
- 3) No exam exemption is foreseen.

B. The test

- 1) The test questions include the whole content of the subject, and reflect all areas of pediatrics discussed and trained throughout the university course and curriculum, according to the syllabus for the study years 3rd to 6th.
- 2) The range and the set of test questions are prepared in a way reassuring objectivity. The lot is composed and mixed allowing more comfort and independence for individuals sitting side by side, so that the diversified sequence and order of answers are guaranteed.
- 3) The multiple-choice test is composed of 100 items. Not less than 25% of the questions will be practical-based (ie. analysis of laboratory results, radiological imaging, ECG).
- 4) Unassisted performance of the test is strictly advised (see: the point 9 of the Regulations).
- 5) In case of factual and substantial remarks to the questions, the examinee has the opportunity to submit his/her objections in a written form, immediately after having completed the test, before leaving the auditorium/exam location. Any submitted objections will be carefully checked by the examining board before scoring.
- 6) In case the student's objection has been acknowledged, the relevant question/item will be cancelled, and will have been generally removed from the scoring system. The exemption will then be revoked i.e. the nullified questions will not be scored.
- 7) The outcome of the test is presumed positive in case the student has achieved at least 60% of correct answers. The results below 60% denominate failure of the entire exam, i.e., negative evaluation /unacceptable note/ in the first attempt.
- 8) Scoring and the range of notes from the written test are based on the criteria specified below:

% of correct answers	Grade
<60.00	unacceptable (fail = 2)
60.00 – 67.99	acceptable (passing grade = 3)
68.00 – 74.99	average (3.5)
75.00 – 81.99	good (4)
82.00 – 89.99	above good (4.5)
90.00 – 100.00	excellent (5)

- 9) The results of the test are available and announced within the 3 weekdays from the date of the test. Commonly

accepted form of publicizing is applied, thus, the policy and usual procedures of personal data protection is warranted in the announcement of the outcomes.

- 10) Student is entitled to the inspection of his/her own exam forms (answer sheet) within 3 days after announcement of the results in the secretary's office of the Department of Pediatrics, Rheumatology, Immunology and Metabolic Bone Diseases. Following this term, the insight into the works and exam papers will not be longer possible.

In case of a necessity of organizing the exam through the e-learning platform the regulations may be altered.

C. Resit and principles for retake the exam

- 1) Students who fail the exam (either of the exam components) will be granted two (2) opportunities to retake it. The first retake test will be organized within 4 weeks following the first test. The second opportunity will take place within 3 weeks of the first retake exam but no later than the end of the winter exam session.
- 2) The date of the retake test will be announced on the website of the Department of Pediatrics, Rheumatology, Immunology and Metabolic Bone Diseases without undue delay. **Note:** There will be no possibility to retake the test in any other term than that appointed in the special announcement. This exam consists of both the 100-item multiple-choice test and is based on the identical procedure as that in the first attempt.