





Department and Clinic of Endocrinology and Diabetology for Children and Adolescents			4		12														
Department of Paediatric Bone Marrow Transplantation, Oncology and Hematology			4		12														
Department and Clinic of Paediatric Nephrology			4		12														
<b>Summer semester</b>																			
1st Department and Clinic of Paediatrics, Allergology and Cardiology			-		8														
2nd Department and Clinic of Paediatrics, Gastroenterology and Nutrition			-		8														
Department and Clinic of Endocrinology and Diabetology for Children and Adolescents			-		8														
Department of Paediatric Bone Marrow Transplantation, Oncology and Hematology			-		8														
Department and Clinic of Paediatric Nephrology			-		8														
<b>TOTAL per year:</b>																			
			20		10														
					0														
<b>Educational objectives</b> (max. 6 items)																			
C1. Practical skills to examine pediatric patients																			
C2. The differences in physiology and pathology in children. Physiology of pediatric growth																			



- C3. Infant and children feeding in health and illnesses  
C4. The common illnesses in pediatric age, neonates patophysiology  
C5. Pediatric psychological disorders  
C6. School age child's care

**Education result matrix for module/course in relation to verification methods of the intended education result and the type of class**

Number of course education result	Number of major education result	Student who completes the module/course knows/is able to	Methods of verification of intended education results (forming and summarising)	Form of didactic class <i>**enter the abbreviation</i>
<b>K1</b>	<b>E.W.1</b>	Genetic, environmental background and epidemiology of pediatric diseases	Final exam	AC, CC
<b>K2</b>	<b>E.W.2</b>	Infant feeding in health and disease, prevention of infectious diseases, health records	Final exam	AC, CC
<b>K3</b>	<b>E.W.3</b>	Knows and understands the causes, symptoms, principles of diagnosis and therapeutic for the most common diseases (rickets, heart failure, acute and chronic respiratory diseases, anemia, cancer, acute and chronic abdominal pain, urinary tract infections, thyroid disease, diabetes, obesity, cerebral palsy, epilepsy, genetic syndromes, connective tissue diseases, knows the most common life-threatening conditions.	Final exam	AC, CC
<b>K4</b>	<b>EW4</b>	Knows and understands the psychosomatic disorders in childhood and sexual abuse	Final exam	AC, CC
<b>K5</b>	<b>EW6</b>	Knows life-threatening diseases in children and knows how to treat them	Final exam	AC, CC
<b>S1</b>	<b>EU2</b>	Knows how to take history with the patient and his family	Final exam	AC, CC
<b>S2</b>	<b>EU4</b>	Conducts examination of pediatric patient at all ages	Final exam	AC, CC
<b>S3</b>	<b>EU6</b>	Conducts examination of hearing and vision	Final exam	AC, CC
<b>S4</b>	<b>EU9</b>	Compare antropometric measurements and blood pressure results with those on centile grids	Final exam	AC, CC
<b>S5</b>	<b>EU10</b>	Evaluates the degree of advancement of sexual maturation	Final exam	AC, CC
<b>S6</b>	<b>EU11</b>	Conducts examination of periodic	Final exam	AC, CC



		pediatric checkings		
S7	EU12	Conducts differential diagnosis of pediatric diseases	Final exam	AC, CC
S8	EU 16	Plans diagnostic , therapeutic and prevention methods	Final exam	AC, CC

\*\* L - lecture; SE - seminar; AC – auditorium classes; MC – major classes (non-clinical); CC – clinical classes; LC – laboratory classes; SCM – specialist classes (magister studies); CSC – classes in simulated conditions; FLC – foreign language course; PCP practical classes with patient; PE – physical education (obligatory); VP – vocational practice; SS – self-study, EL – E-learning .

Please mark on scale 1-5 how the above effects place your classes in the following categories:  
communication of knowledge, skills or forming attitudes:

Knowledge: 5

Skills:5

Social competences: 5

**Student's amount of work (balance of ECTS points)**

Student's workload (class participation, activity, preparation, etc.)	Student Workload (h)
1. Contact hours:	120
2. Student's own work (self-study):	68
Total student's workload	188
<b>ECTS points for module/course</b>	<b>7,5</b>
Comments	

**Content of classes** (please enter topic words of specific classes divided into their didactic form and remember how it is translated to intended educational effects)

1st Department and Clinic of Paediatrics, Allergology and Cardiology

Classes are taught by the professor, assistant professors and assistants and PhD students. Classes are conducted within the outpatients clinic, ward and during the afternoon and evening duties. If possible, include student self-care for one or more patients who in the course of the next duty proposes additional tests and modifies the applied treatment on the basis of observations, analyzes in detail the degree of regression or progression of symptoms, unaided series of simple diagnostic and therapeutic procedures. Significant emphasis during the course of counseling will be placed on expanding the ability of independent lessons learned and cooperation with the family doctor primary care. An important element of the exercise is to familiarize the participants with the current and with the existing state of the law obligating provider to certain forms and scope of health services.

2nd Department and Clinic of Paediatrics, Gastroenterology and Nutrition

Classes are conducted within the outpatient clinic and during the afternoon and evening duties. Whenever possible, the student includes self-care of one or a few patients who in the course of the next duty proposes additional tests and modifies the applied treatment on the basis of our observations, analyzes in detail the degree of regression or progression of symptoms, unaided series of simple diagnostic and therapeutic procedures in the field of pediatrics and pediatric gastroenterology. Particular emphasis will be placed on the principle of rational nutrition of infants and children. Significant emphasis during the course of counseling will be placed on expanding the ability of independent lessons learned and cooperation with the family doctor primary care. An important element of the exercise is to familiarize the participants with the current and with the existing state of the law obligating provider to certain forms and scope of health services.



### Department and Clinic of Endocrinology and Diabetology for Children and Adolescents

Classes are taught by the professor, assistant professors and assistants and PhD student. Task is to familiarize students with endocrine disorders. Patients enrolled come from departments of the clinic as well as the outpatient Clinic. During the course we will discuss the symptoms of endocrine diseases, diagnosis and their treatment. Students become familiar with the documentation, they will plan the study and interpret them. They will be presented with personal insulin pumps, pens, blood glucose meters and continuous glucose monitoring system and a system of measurement of glucose type of scan - "Libra". Each student will perform the measurement of level of glucose, weigh the baby, assess vital signs. Students will be implemented in the method of treatment of endocrine disorders During the duties will participate together with their doctor in all administrative procedures and medical devices. The student must obtain a history, examine the patient, assess the state of health and plan diagnostic tests and treatment. During the course we will focus on self-reliance in the field of diagnosis and treatment.

### Department of Paediatric Bone Marrow Transplantation, Oncology and Hematology

Classes are conducted in the framework of the Consultative Clinic and within the branches of the evening duties by medical professors, lecturers and assistants from Clinic of Bone Marrow Transplantation, Oncology and Haematology. The primary objective of the course is to acquaint students with the most common problems of hematology and oncology concern in primary care and learning to perform clinical examination which allows the pre-selection, diagnosis and differentiation of enlarged lymph nodes, changes in abdominal, symptoms of bleeding disorders, anemia and neurological symptoms. Students' education will also include knowledge of the epidemiology of cancer and hematologic diseases in children including environmental hazards, discuss the symptoms and patterns of diagnostic and therapeutic onco-hematology, as well as adjunctive treatment and consequences of modern anticancer therapy. They will be presented with procedures for the exercise marrow puncture, lumbar puncture, and use of vascular catheters. Students will carry out a physical examination in patients, will be involved in the interpretation of imaging studies and laboratory (including the drafting and interpretation of smears of peripheral blood and bone marrow). An important element will be also to familiarize students with valid documentation and legal status.

### Department and Clinic of Paediatric Nephrology

Classes are taught by professors, lecturers and assistants of the Clinic of Pediatric Nephrology within the Specialist Clinic and within the branches during the evening duties. Whenever possible, the student takes care under the supervision of his doctor in care of patient, during the next duty proposes additional tests and modifies the applied treatment on the basis of our observations, analyzes in detail the degree of regression or progression of symptoms, conducts simple treatments diagnostic and therapeutic procedures. Significant emphasis during the course will be placed on expanding the ability of independent lessons learned and cooperation with the family doctor primary care. An important element of the exercise is to familiarize the participants with valid documentation and with the existing state of the law obligating provider to certain forms and scope of health services.

### **Clinical classes**

1st Department and Clinic of Paediatrics, Allergology and Cardiology

1. Discussion about diagnostic procedures in patients of Allergy Outpatient Clinic
2. Medical recording in outpatient Allergy Clinic
3. Conducting specialist treatment in outpatient clinic.
4. Treatment of asthma by the GINA guidelines.
5. Specific allergen immunotherapy safety.
6. Genetics of atopic diseases.
7. Diagnosis of acute and chronic respiratory diseases (spirometry, measurement of NO, Oscillometry pulse).



## 2nd Department and Clinic of Paediatrics, Gastroenterology and Nutrition

1. Differential diagnosis of the most common gastrointestinal symptoms in children associated with the most frequent gastrointestinal diseases in pediatric population depending on the age of a child and taking into the account the appropriate diagnostic and therapeutic management
2. Clinical Presentations and discussions of particular clinical cases and their management based on the current evidence based diagnostic and therapeutic algorithms (active participation of students is strongly encouraged).
3. The most recent updates in pediatric gastroenterology useful in routine, daily based primary care practice
4. Discussing steps of adequate diagnostic and therapeutic management based on patients' history, physical examination, evaluation of child development and analysis of symptoms/signs/findings/alarming findings.
5. Discussing Diagnostic-therapeutic algorithms of pediatric gastrointestinal diseases; indications for hospitalization.
6. Feeding disorders – the role of a physician in establishing a proper management.

## Department and Clinic of Endocrinology and Diabetology for Children and Adolescents

1. Diabetes – Contemporary therapy in type 1 diabetes – intensive insulin therapy with pen injectors and personal insulin pumps. Continuous glucose monitoring system. Newest therapeutical possibilities: Sensor augmented insulin pumps, closed loop. Practical training include pump programming, CGM and FGM (FreeStyle Libre) results interpretation in computer programs. Education of children and parents for effective self-treatment: SMBG, insulin administration, diet (Carbohydrate exchanges, Fat content), Glucose Index, Glucose load. Preparing a diet for a patient. Rules of calculation insulin dose for CE and fat as well as correction doses. HbA1c – interpretation of a result.
2. Puberty Disorders – delayed and precocious puberty. Interpretation of clinical cases, history of patients, planning the tests and monitoring the treatment efficacy.
3. Short stature, gigantism – differential diagnosis, causes of short stature, including familial short stature, idiopathic short stature. Genetical syndromes. Practical training – history of the patient, prognosis of final height, anthropometrical measurements (with SD calculation), height velocity calculation and interpretation, diagnostic procedures – planning, interpretation of the results, calculation of rhGH dose for a patient. Interpretation of efficacy of the treatment for a patient: height velocity, lab test results, anthropometrics and growth chart, monitoring of the treatment. GH tests and interpretation of the results, application of the treatment.
4. Obesity and Anorexia. Practical training – presentation of chosen cases. Zajęcia praktyczne – demonstracja własnych przypadków. Discussion on the principles of nutrition, and methods of body weight reduction. Presentation how to prepare meals with a reduced number of calories. Discussing the importance of GI and GL in the treatment of obesity. Testing body composition with bioimpedance method. Lab tests: planning, results and their interpretation. Setting the recommended physical activity for individual child and discussing its importance in the treatment of obesity. Rating shortage of body weight. Determining a nutrition for a child with deficit of body weight and assessment the effectiveness of the recommendations. Lab tests – planning and interpretation of the results.
5. Thyroid gland diseases – discussing the screening methods, rules and interpretation of the results. Limitations of screening. Indications for performing thyroid function tests examination and interpretation of results. Presentation of cases - children with thyroid disease (congenital hypothyroidism, subclinical hypothyroidism, Hashimoto's thyroiditis, Graves' disease, cancer). Establishing doses and interpretation of control tests results.
6. Genetic syndromes in endocrinology. Discussion of endocrinological disorders in patients with Turner Syndrome, Prader Willy Syndrome, Down Syndrome and others. Diagnostic procedures and treatment options.

## Department of Paediatric Bone Marrow Transplantation, Oncology and Hematology



1. Epidemiology of cancer and hematologic diseases
2. Principles of chemotherapy and supportive therapy in pediatric oncology.
3. Life-threatening conditions in pediatric oncology
4. Advances in pediatric oncology and hematology
5. Combination therapy of pediatric cancer
6. Palliative care
7. Late effect and algorithm of survivors care
8. Hematologic disorders in outpatient care – what to do.

#### Department and Clinic of Paediatric Nephrology

1. Interpretation of basic laboratory tests results for urogenital disorders in children.
2. Children with congenital anomalies of kidney and urinary tract (CAKUT) and children with suspicion/diagnosis of hypertension. Case presentations. Discussion on recommendations.
3. Diagnostic and therapeutic algorithm for urinary tract infections. Ambulatory treatment. Indication for hospitalization.
4. Discussion on recommendations for nocturnal enuresis and pediatric nephrotic syndrome. Presentation of clinical cases.
5. Ambulatory and hospital management of chronic kidney disease in children.
6. Diagnostic and therapeutic novelties in pediatric nephrology useful in everyday work of general practitioner (GP).
7. Presentations of selected cases with active participation of students – discussion and students' suggestions on diagnostic and therapeutic management.
8. Differential diagnosis for selected symptoms related to urogenital system with consideration of child's age (diagnostic algorithms for polyuria, haematuria, proteinuria).

#### **Basic literature** (list according to importance, no more than 3 items)

##### **1. Nelson Textbook of Pediatrics, 19th Edition**

By Robert M. Kliegman, MD, Bonita M.D. Stanton, MD, Joseph St. Geme, Nina Schor and Richard E. Behrman, MD

#### **Additional literature and other materials** (no more than 3 items)

- 1.
- 2.
- 3.

#### **Didactic resources requirements** (e.g. laboratory, multimedia projector, other...)

Multimedia projector, computer

#### **Preliminary conditions** (minimum requirements to be met by the student before starting the module/course)

appropriate clothing and shoes, stethoscope, flashlight to examine the throat, ability to perform physical examination perform differential diagnosis and propose treatment

**Conditions to receive credit for the course** (specify the form and conditions of receiving credit for classes included in the module/course, admission terms to final theoretical or practical examination, its form and requirements to be met by the student to pass it and criteria for specific



grades)

Pediatrics exam consists of writing test part and practical and oral part.

Practical part: taking medical history and examination of the patient, offering diagnosis and treatment; Oral part: student answers for randomly selected four questions covering the entire scope of the subject. To obtain the required final credit is very good, good or satisfactory answer to the questions randomly selected, and the positive outcome of the test and practical part of the exam.

<b>Grade:</b>	<b>Criteria</b> (only for courses/modules ending with an examination)
Very Good (5.0)	> 94% of positive answers on the test part, excellent answers to the theoretical questions randomly selected, and the positive outcome of the practical part of the exam
Good Plus (4.5)	85- 94% of positive answers on the test part over good, answers to the questions randomly selected, and the positive outcome of the practical part of the exam
Good (4.0)	80-84% of positive answers on the test part good answers to the questions randomly selected, and the positive outcome of the practical part of the exam
Satisfactory Plus (3.5)	70-79% of positive answers on the test part, sufficiently good answers to the questions randomly selected, and the positive outcome of the practical part of the exam
Satisfactory (3.0)	60-69% of positive answers on the test part satisfactory answers to the questions randomly selected, and the positive outcome of the practical part of the exam

**Name and address of module/course teaching unit, contact: telephone and e-mail address**

**1st Department and Clinic of Paediatrics, Allergology and Cardiology,**  
Chałubińskiego 2a

Phone: 71 7703091

e-mail: [andrzej.boznanski@umed.wroc.pl](mailto:andrzej.boznanski@umed.wroc.pl)





karolina.wojcik@umed.wroc.pl

**Coordinator / Person responsible for module/course, contact: telephone and e-mail address**

**Person responsible for the course for a given year: Professor Andrzej Boznański PhD, MD,**  
[andrzej.boznanski@umed.wroc.pl](mailto:andrzej.boznanski@umed.wroc.pl)  
Phone: 717703090

**List of persons conducting specific classes: full name, degree/scientific or professional title, discipline, performed profession, form of classes.**

In the case of coordinated subjects, please provide the topic of performed classes separately for each unit performing them.

**Teachers list:**

<p><b>1st Department and Clinic of Paediatrics, Allergology and Cardiology</b> Dr hab. n.med Barbara Sozańska Dr n. med. Anna Dębińska Dr n. med. Hanna Danielewicz Dr n.med. Wanda Balińska -Miskiewicz</p>
<p><b>2nd Department and Clinic of Paediatrics, Gastroenterology and Nutrition</b> dr n. med. Tomasz Pytrus dr n. med. Krzysztof Matusiewicz dr n. med. Agnieszka Borys-Iwanicka dr n. med. Andrzej Stawarski lek. med. Katarzyna Akutko</p>
<p><b>Department and Clinic of Endocrinology and Diabetology for Children and Adolescents</b> Dr n. med. Aleksander Basiak Dr n. med. Beata Wikiera Dr n. med. Jolanta Bieniasz Dr n. med. Agnieszka Zubkiewicz-Kucharska Lek. Monika Seifert Dr n. med. Joanna Chrzanowska</p>
<p><b>Department of Paediatric Bone Marrow Transplantation, Oncology and Hematology:</b> Prof. dr hab. n. med. Krzysztof Kałwak Dr hab.n.med. Marek Ussowicz Dr n.med. dr Elzbieta Latos-Grażyńska Dr n. med. Jakub Musiał Dr n.med. Monika Mielcarek</p>
<p><b>Department and Clinic of Paediatric Nephrology</b> prof dr hab. n. med. Katarzyna Kiliś-Pstrusińska dr hab. Kinga Musiał dr n. med. Anna Jakubowska dr Konstancja Fornalczyk dr Agnieszka Pukajło-Marczyk dr K. Prościak</p>

**Drawn up on (date):**

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Wrocław Medical University  
FACULTY OF MEDICINE  
VICE-DEAN FOR STUDIES IN ENGLISH

*[Handwritten signature]*  
Prof. Andrzej Boznański

**The syllabus has been drawn up by**

**Signature of the Head of the unit conducting the course**

*[Handwritten signature]*  
*[Handwritten signature]*



**Signature of Faculty Dean**

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