**DESCRIPTION OF THE COURSE OF STUDY**

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| **Course code** | 0912-7LEK-C6.3-CD |
| **Name of the course in**  | Polish | Chirurgia dziecięca |
| English | Pediatric surgery |

1. **LOCATION OF THE course OF STUDY within the system of studies**

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| **1.1. Field of study** | Medical |
| **1.2. Mode of study** | Full-time |
| **1.3. Level of study** | Uniform Master’s studies |
| **1.4. Profile of study\*** | General academic |
| **1.5. Person preparing the course description** | dr n. med. Przemysław Wolak |
| **1.6. Contact** | przemyslaw.wolak@ujk.edu.pl |

1. **GENERAL CHARACTERISTICS OF THE COURSE OF STUDY**

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| **2.1. Language of instruction** | English |
| **2.2. Prerequisites\*** | Anatomy, Physiology, Surgery, Pediatrics |

1. **DETAILED CHARACTERISTICS OF THE COURSE OF STUDY**

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| * 1. **Form of classes**
 | **LECTURE: 10 (including 6 h of e-learning) CLASSES: 15, PRACTICAL CLASSES: 25** |
| * 1. **Place of classes**
 | Lectures –Collegium Medicum UJK or onlineClinical classes - Department of Pediatric Surgery, Urology and Traumatology, Regional Hospital in Kielce |
| * 1. **Form of assessment**
 | **LECTURE – E, CLASSES and PRACTICAL CLASSES – Zo** |
| * 1. **Teaching methods**
 | lectures, discussion, case study |
| * 1. **Bibliography**
 |  **Required reading** | 1. Pediatric Surgery 7th Edition; A. Coran; 20122. Holcomb and Ashcraft’s Pediatric Surgery 7th Edition, G.W. Holcomb, J.P. Murphy, S.D. St. Peter, J.M. Gatti, 2020 |
|  **Further reading** | 1. Nelson Textbook of Pediatrics 21st Edition, R.M. Kliegman, J.W. St Geme, N.J. Blum, S.S. Shah, R.C. Tasker, K.M. Wilson; 2020
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1. **OBJECTIVES, SYLLABUS CONTENT AND INTENDED LEARNING OUTCOMES**

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| * 1. **Course objectives (including form of classes)**

C1 Knows the differences and details of surgical disorders in children and adolescentsC2 Propose differential diagnosis, plan diagnostic workup and interpret results evaluating a child with surgical disordersC3 Establishes and maintains a deep and respectful contact with the patient |
| * 1. **Detailed syllabus (including form of classes)**

**Lectures**1. Specificity of Pediatric Surgery (disorders, congenital disorders, treatment, differences is anatomy and physiology)

2. History of Pediatric Surgery.3. Congenital malformations of the central nervous system. Complex treatment of child with hydrocephalus and myelingomyocele.4. Congenital malformation of the gastrointestinal track (esophageal atresia, malrotation and midgut volvulus, jejunoileal atresia, Hirschsprung’s disease, anorectal anomalies, biliary atresia). 5. Minimally Invasive Pediatric Surgery (laparoscopic appendectomy, removal of Meckel’s diverticulum, cholecystectomy, PIRS, TEPT).6. Evaluation and treatment of pediatric trauma. Indications and conservative treatment of head trauma, injuries to the spleen, liver and kidneys.7. Pediatric orthopedics (fractures and dislocations in children) - evaluation, treatment and rehabilitation8. Congenital Genitourinary Anomalies (hydronephrosis, vesicoueteral reflux, bladder exstrophy). Disorders of bladder function.9. Pediatric Surgical OncologyClinical classes    1. Introduction to pediatric surgery, fetal surgery.     2. Congenital malformations of alimentary tract, disorders of the abdominal wall.     3. Craniofacial congenital malformations, branchial remnants, spinal dysraphism, hydrocephalus.     4. Congenital lung malformations, chest wall deformities.     5. Congenital genitourinary malformations, obstructive uropathies, vesicoureteral reflux, neurogenic bladder.     6. Acute disorders in pediatric surgery - acute abdomen, acute scrotum, NEC, intussusception, ovarian torsion, ileus.     7. Most common pediatric surgery procedures - inguinal hernia, hydrocele testis, phimosis, undescended testis, umbilical problems, nevus, nodules.     8. Pediatric surgical oncology.     9. Pediatric traumatology (head, thorax, abdomen trauma, birth injuries, child abuse).     10. Burn injury, shock.     11. Student assessment |

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| **4.3 Intended learning outcomes** |
| **Code** | **A student, who passed the course** | **Relation to learning outcomes** |
| within the scope of **knowledge**: |
| W01 | knows and understand the causes, symptoms, principles of diagnosis and therapeutic procedures in the case of the most frequent diseases of children: a) rickets, tetany, seizures, b) heart defects, myocarditis, endocarditis and pericarditis, cardiomyopathy, arrhythmias , heart failure, hypertension, syncope, c) acute and chronic diseases of the upper and lower respiratory tract, congenital malformations of the respiratory system, tuberculosis, cystic fibrosis, asthma, allergic rhinitis, urticaria, anaphylactic shock, angioedema, d) anemia, bleeding disorders, conditions for marrow failure, cancer in children, including solid tumors typical of childhood; e) acute and chronic abdominal pain, vomiting, diarrhea, constipation, gastrointestinal bleeding, peptic ulcer, nonspecific intestinal diseases, pancreatic diseases, cholestasis, liver disease, and other acquired diseases and congenital defects of the gastrointestinal tract, f) urinary tract infections, congenital defects of urinary tract, nephrotic syndrome, kidney stones, acute and chronic renal failure, acute and chronic inflammation of kidney, systemic kidney disorders, urination disorders, gastroesophageal vesico-ureteral reflux disease, g) growth disorders, diseases of the thyroid and parathyroid, adrenal disease, diabetes, obesity, disorders of maturation and gonadal function,h) cerebral palsy, encephalitis and meningitis, epilepsy, i) the most common childhood diseases, j) genetic syndromes, k), connective tissue diseases, rheumatic fever, juvenile arthritis, systemic lupus, skin and muscle inflammation; | E.W3. |
| W02 | knows the problems of: child abuse and sexual abuse, mental retardation, behavioral disorders: psychosis, addiction, eating disorders, and excretion in children; | E.W4. |
| W03 | knows the basic ways of diagnosis and treatment of the fetus; | E.W5. |
| W04 | knows the most common life-threatening conditions in children and the rules of conduct in these states; | E.W6. |
| W05 | knows and understand the causes, symptoms, principles of diagnosis and therapeutic management in relation to the most common diseases requiring surgical intervention, taking into account the individuality of childhood, in particular: a) acute and chronic diseases of the abdominal cavity, b) diseases of the chest,c) diseases of limbs and head, d) bone fractures and injuries of organs; | F.W1. |
| W06 | knows selected issues of pediatric surgery including traumatology and otorhinolaryngology, defects and acquired diseases being an indication for surgical treatment in children; | F.W2. |
| W07 | knows eligibility rules as well as basic and most common complications of surgery and other invasive diagnostic and treatment procedures; | F.W3. |
| W08 | knows perioperative safety rules, preparing a patient for surgery, general and local anesthesia and controlled sedation; | F.W4. |
| W09 | knows postoperative treatment and analgesic therapy as well as post-operative monitoring; | F.W5. |
| W10 | knows indications and rules for the application of intensive therapy; | F.W6. |
| W11 | knows the current guidelines for cardiopulmonary resuscitation of the newborns, children and adults; | F.W7. |
| W12 | knows the issues concerning modern imaging tests, in particular: a) basic radiological symptomatology of diseases, b) instrumental methods and imaging techniques used to perform medical treatments, c) the indications, contraindications and preparation of patients to particular types of imaging tests and contraindications the use of contrast agents; | F.W10. |
| W13 | knows and understands the causes, symptoms, principles of diagnosis and therapeutic procedures for the most frequent diseases of the central nervous system in terms of: a) a swelling of the brain and its consequences, with particular emphasis on the states of emergency,b) other forms of intracranial narrowness of their consequences, c) cranio-cerebral injuries d) vascular malformations of the central nervous system, e) tumors of the central nervous system, f), diseases of the spine and spinal cord; | F.W13. |
| W14 | knows the problem of surgical transplantation, indications for the transplantation of irreducibly damaged organs and tissues, and related procedures; | F.W14. |
| within the scope of **ABILITIES** : |
| U01 | conducts a review of medical history of the child and its family; | E.U2. |
| U02 | conducts physical examination of the child at any age; | E.U4. |
| U03 | assesses patient’s general condition, consciousness and awareness; | E.U7. |
| U04 | assesses the condition of a newborn according to a the Apgar scale and assesses its maturity; examines neonatal reflexes; | E.U8. |
| U05 | makes relations between anthropometric measurements and blood pressure with data in growth charts; | E.U9. |
| U06 | assesses the stage of puberty; | E.U10. |
| U07 | performs differential diagnosis of the most common diseases in adults and children; | E.U12. |
| U08 | assesses and describes the somatic and mental state of patients; | E.U13. |
| U09 | recognizes states of a direct threat to life; | E.U14. |
| U10 | recognizes when a patient is under the influence of alcohol, drugs and other addictive products; | E.U15. |
| U11 | plans diagnostic, therapeutic and preventive procedures; | E.U16. |
| U12 | conducts analysis of the potential side effects of each drug and the interaction between them; | E.U17. |
| U13 | qualifies the patient for home treatment and hospitalization; | E.U20. |
| U14 | defines states in which functional status of the patient's or his/her preferences restrict the treatment in accordance with specific guidelines for the disease; | E.U21. |
| U15 | interprets laboratory tests/results and identifies the reasons for deviations; | E.U24. |
| U16 | applies dietary treatment (including enteral and parenteral feeding); | E.U25. |
| U17 | assists when the following procedures and medical treatments are performed: a) transfusions of blood and blood products,b) drainage of the pleural cavity, c) puncture of the pericardium, d) puncture of the peritoneal cavity, e) lumbar puncture, f) needle biopsy, g ) epidermal tests, h) intradermal and scarification tests and interpret their results; | E.U30. |
| U18 | plans specialist consultations; | E.U32. |
| U19 | evaluates decubitus and applies appropriate dressings; | E.U35. |
| U20 | acts correctly in the case of injuries (uses dressing or immobilization, stictches the wound); | E.U36. |
| U21 | assists during a typical surgery, prepares the surgical site and locally anesthetizes operated area; | F.U1. |
| U22 | uses basic medical tools; | F.U2. |
| U23 | complies with the aseptic and antiseptic rules; | F.U3. |
| U24 | manages simple wounds and changes sterile surgical dressing; | F.U4. |
| U25 | examines nipples, lymph nodes, thyroid gland and the abdominal cavity in terms of acute abdomen, and performs finger test through the anus; | F.U6. |
| U26 | assesses radiological test result in terms of the most common types of fractures, especially fractures of long bones; | F.U7. |
| U27 | performs temporary immobilization of a limb, selects the type of immobilization necessary for use in typical clinical situations and checks blood supply to the limbs after using the cast; | F.U8. |
| U28 | manages external bleeding; | F.U9. |
| U29 | monitors the postoperative period basing on the basic parameters of life; | F.U12. |
| U30 | assesses the condition of the unconscious patient in accordance with applicable international scales; | F.U21. |
| U31 | recognizes the symptoms of increasing intracranial pressure; | F.U22. |
| U32 | assesses indications for suprapubic puncture and participates in its execution; | F.U23. |
| U33 | assists during the common urological procedures (diagnostic and therapeutic endoscopy of the urinary system, lithotripsy, puncture of the prostate); | F.U24. |

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| **4.4. Methods of assessment of the intended learning outcomes** |
| **Teaching** **outcomes*****(code)*** | **Method of assessment (+/-)** |
| **Exam oral/written\*** | **Test\*** | **Project\*** | **Effort** **in class\*** | **Self-study\*** | **Group work\***  | **Others\*** | **Observation** |
| ***Form of classes*** | ***Form of classes*** | ***Form of classes*** | ***Form of classes*** | ***Form of classes*** | ***Form of classes*** | ***Form of classes*** | ***Form of classes*** |
| *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* |
| W01-W14 | ***+*** |  |  | ***+*** | ***+*** |  |  |  |  | ***+*** |  |  |  |  |  |  |  |  | ***+*** |  |  |  |  |  |
| U01-U33 |  |  |  |  | + | + |  | + | + |  | + | + |  |  |  |  |  |  |  | + | + |  |  |  |

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| * 1. **Criteria of assessment of the intended learning outcomes**
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| **Form of classes** | **Form of classes** | **Form of classes** |
|  **lecture (L)** | **3** | Wyniki testu 61-68% |
| **3,5** | Wyniki testu 69-76% |
| **4** | Wyniki testu 77-84% |
| **4,5** | Wyniki testu 85-92% |
| **5** | Wyniki testu 93-100% |
| **classes (C)\*** | **3** | 61-68% Mastering the content of the curriculum at the basic level, chaotic answers, necessary leading questions. Data collection and solving clinical problems in typical situations with the help of guiding questions / supplementing the content by the teacher. |
| **3,5** | 69-76% Mastering the content of the curriculum at the basic level, systematized answers, requires the help of a teacher. Collecting data and solving clinical problems in typical situations with the help of the teacher. |
| **4** | 77-84% Mastering the content of the curriculum at the basic level, systematic and independent answers. Collecting data and solving clinical problems in typical situations independently |
| **4,5** | 85-92% The scope of the presented knowledge goes beyond the basic level based on the supplementary literature provided. Collecting data and solving clinical problems independently. Problem solving in new and complex situations. |
| **5** | 93-100% The scope of the presented knowledge and skills goes beyond the basic level based on self-acquired scientific sources of information. Collecting data and solving clinical problems independently in new and complex situations with the use of EBM. |
| **Practical classes (C)\*** | **3** | 61-68% Mastering the content of the curriculum at the basic level, chaotic answers, necessary leading questions. Data collection and solving clinical problems in typical situations with the help of guiding questions / supplementing the content by the teacher. |
| **3,5** | 69-76% Mastering the content of the curriculum at the basic level, systematized answers, requires the help of a teacher. Collecting data and solving clinical problems in typical situations with the help of the teacher. |
| **4** | 77-84% Mastering the content of the curriculum at the basic level, systematic and independent answers. Collecting data and solving clinical problems in typical situations independently |
| **4,5** | 85-92% The scope of the presented knowledge goes beyond the basic level based on the supplementary literature provided. Collecting data and solving clinical problems independently. Problem solving in new and complex situations. |
| **5** | 93-100% The scope of the presented knowledge and skills goes beyond the basic level based on self-acquired scientific sources of information. Collecting data and solving clinical problems independently in new and complex situations with the use of EBM. |

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| **Criteria for evaluation of oral answer**1. Provision of a comprehensive answer to the problem (task)2. Skill of integration of knowledge from allied domains (disciplines) 3. Independence and/or creativity in the presentation of the scope of problems, proposals of solutions4. Presentation of the current knowledge related with the discipline (domain)5. Recognition of problems resulting from the task  |

 **5. BALANCE OF ECTS CREDITS – STUDENT’S WORK INPUT**

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| **Category** | **Student's workload** |
| **Full-time****studies** |
| *NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/* | **55** |
| *Participation in lectures\** | **15** |
| *Participation in classes, seminars, laboratories\** | **40** |
| *Preparation in the exam/ final test\** |  |
| *Others\** |  |
| *INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/* | **20** |
| *Preparation for the lecture\** | 10 |
| *Preparation for the classes, seminars, laboratories\** | 10 |
| *Preparation for the exam/test\** |  |
| *Gathering materials for the project/Internet query\** |  |
| *Preparation of multimedia presentation* |  |
| *Others (please specify e.g. e-learning)\** |  |
| *TOTAL NUMBER OF HOURS* | **75** |
| ECTS credits for the course of study | **3** |

***\*delete as appropriate***

***Accepted for execution*** *(date and legible signatures of the teachers running the course in the given academic year)*

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