|  |  |  |  |
| --- | --- | --- | --- |
|  | **UNIVERSITY OF EAST SARAJEVO**  Faculty of Medicine | |  |
| ***Study program: Medicine*** | |
| Integrated academic studies | V study year |

|  |  |
| --- | --- |
| **Full course title** | FLEXIBLE BRONCHOSCOPY IN PEDIATRICS PULMONOLOGY |
| **Department** | Department of Pediatrics, Faculty of Medicine in Foča |

|  |  |  |  |
| --- | --- | --- | --- |
| **Course code** | **Course status** | **Semester** | **ECTS** |
|
| МЕ-01-2-055-10 | elective | X | 1 |

|  |  |
| --- | --- |
| **Teacher/-s** | Prof. dr Dejan Bokonjić, prof dr Predrag Minić, Prof. dr. A. Selimović, |
| **Associate/ - s** |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **The number of teaching hours / teaching workload (per week)** | | | **Individual student workload (in hours per semester)** | | | | **Coefficient of student workload So[[1]](#endnote-1)** |
| L | E | SP | L | | E | SP | **So** |
| 1 | 0 | 0 | 1\*15\*1 | | 0\*15\*1 | 0\*15\*1 | 1 |
| Total teaching workload (in hours, per semester)  1\*15+0\*15+0\*15=15 | | | | Total student workload (in hours, per semester)  1\*15\*1+0\*15\*1+0\*15\*1=15 | | | |
| Total subject workload (teaching+student): 15+15=30 hours per semester | | | | | | | |

|  |  |
| --- | --- |
| **Learning outcomes** | Through the teaching of the elective subject **"Flexible bronchoscopy in children's pulmonology"** the student will adopt the following knowledge:  **Anatomy of the respiratory tract in bronchoscopy**  Unknown to the anatomy of the respiratory tract and exploration of the tracheobronchial tree with a flexible bronchoscope.  **Equipment and facilities for performing children's bronchoscopy**  Getting to know the appearance of operating room, the equipment used to perform childhood flexible bronchoscopy.  **Anesthesia and sedation in children's flexible bronchoscopy**  Getting acquainted with sedation, anesthesia, show how to perform intubation before a child's flexible bronchoscopy. Application of bronchoscope in difficult intubation.  **Indications and contraindications in children's flexible bronchoscopy**  Getting acquainted with indications and contraindications for performing flexible bronchoscopy in children.  **Complications in children's flexible bronchoscopy**  Familiarizing with complications in flexible bronchoscopy and resolving them.  **Bronchoscopy with bronchoalveolar lavage - procedure and analysis of sputum**  Introduction to the method of performing childbearing flexible bronchoscopy with bronchoalveolar lavage, and to clarify the significance of the findings of the bronchoalveolar lavage, and in accordance with the findings, explain the introduction of therapy in a child with a lung disease.  **The role of children's flexible bronchoscopy in pulmonary disease**  Familiarizing with the diagnostic and therapeutic role of flexible bronchoscopy in certain lung diseases, and with new achievements in certain diseases.  **Modern methods in children's flexible bronchoscopy**  Getting to know new cutting-edge methods that are applied with flexible bronchoscopy.  The skills that the student should **independently know practically perform**:   * Recognizing the symptoms and signs of children with lung diseases, and consequently identifying indications and contraindications for the use of a flexible bronchoscope. * Knowing the parts of a flexible bronchoscope. * Detection of lung diseases on radiogram and computerized tomography.   Skills that a **student needs to know, without the practical performance**:   * Parts and using bronchoscope for the performance of flexible bronchoscopy. * Recognition of tubular size when introducing flexible bronchoscopy in an intubated child.   After attending classes, the student should adopt the following **attitudes**:   * Flexible bronchoscopy is important for resolving stubborn lung infiltrates that do not respond to conservative medication therapy and oxygen therapy, allowing pulmonary reexamination. * By endoscopic examination of the tracheobronchial tree, we provide the last answer to the question: "What happens to the lungs". * Flexible bronchoscopy with BAL allows insight into the inflammatory elements and the relationship of the immune response of the reactive bronchi to the causative agent (bacterium, virus) |
| **Preconditions** | Precondition for taking the exam: all of the fourth year exams passed |
| **Teaching methods** | Teaching is performed in the form of:  1. Lectures ex catedra (10 hours) for all students  2. Practical exercises (10 hours) for groups of not more than 10 students. Students will look during tutor is doing bronhoscopy |
| **Course content per week** | **Lectures**  1.Anatomy of respiratory system (larynx, trachea, bronchi, lung). Bronchopulmonary segments.  2-Anterior and posterior approach to the anatomy of the tracheobronal tree  **3- Overview of the tracheobronal tree with a flexible bronchoscope**  **4. E**quipment and room for performing flexible bronchoscopy   * The operating room * Intensive care * Parts of a flexible bronchoscope * Disinfection of the bronchoscope   **5.** Anesthesia and sedation in flexible bronchoscopy in childhood   * Respirator * Mechanical ventilation * Tubes * Laryngoscopes * Ambu balloons   **6. Equipment, operating room, intensive care, anesthesia and sedation in a flexible baby bronchoscopy**   * Physiology of the newborn * Local anesthetic methods * Equipment and monitoring * Endotracheal intubation   **7. I** ndications and contraindications for the flexible bronchoscopy of childhood  **8.** Complications of flexible bronchoscopy of childhood   * Mechanical * Physiological * Bacteriological   **9. Indications, contraindications, complications of a flexible bronchoscopy of childhood**   * Room and work with a patient's bronchoscope   **10.** Bronchoalveolar lavage and analysis of bronchialveolar lavage   * Equipment for performing bronchoalveolar lavage * Procedure for performing bronchoalveolar lavage * Bronchoalveolar wash analysis   **11.Bronchoalveolar lavage and analysis of bronchialveolar lavage**   * Practical performance of bronchoalveolar lavage   **12.** Flexible bronchoscopy in lung diseases (pneumonia, bronchitis, tuberculosis, bronchiectasis)  **13.Practical bronchoscopy performed on a patient with bronchialveolar lavage**  **14.**Modern methods for flexible bronchoscopy of children's age   * Endobronhala ultrasound bronchoscopy (EBUS) * Autofluorescence Bronchoscopy (AFB) * Electromagnetic Navigation Bronchoscopy (ENB) * Transbronchial lung biopsy (TBB) * Transbronchial pulmonary aspiration (TBNA) * Methods of interventional bronchoscopy   **15.** The role of childbearing flexible bronchoscopy in lung transplantation   * The role of a flexible bronchoscope in the preoperative preparation of pediatric patients for lung transplantation * The role of flexible bronchoscopy after lung transplantation |

|  |  |  |  |
| --- | --- | --- | --- |
| **Compulsory literature** | | | |
| **Author/-s** | **Publication title, publisher** | Year | Pages (from-to) |
| A Selimović | Pediatric flexibile bronchoscopy, | 2021. |  |
| Priftis KN, Antthracopouls MB, Eber E, Kombourlis AC, Wood RE. | Pediatric Bronchoscopy. Karger, Basel, . | 2010 |  |
| **Additional literature** | | | |
| **Author/-s** | **Publication title, publisher** | Year | Pages (from-to) |
| Shah Pallav | Atlas of Flexible Bronchoscopy. Taylor&Francis Group, USA, | 2011. |  |
| Khilnani P, Pao M. | Pediatric Bronchoscopy. Jaypee Brothers Medical Publishers, New Delhi, | 1999. |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Student responsibilities, types of student assessment and grading** | **Grading policy** | Points | Percentage |
| Pre-exam activities | | |
| lecture/exercise attendance | 10 | 10% |
| seminar paper | 40 | 40% |
| Final exam | | |
| Wtitten test | 50 | 50% |
| TOTAL | 100 | 100 % |

|  |  |
| --- | --- |
| **Certification date** | Septembar 09th .2021 |

\* the number of necessary rows is added by using *insert mode*

1. [↑](#endnote-ref-1)