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| **Course code:** **FFS98**  | **Course title:****CLINICAL PHARMACY** |
| **Level:** **Undergraduate** | **Year:** **V**  | **Semester:** **IX** | **ECTS credits:****4** |
| **Status:****Obligatory** | **Number of hours weekly:** **2+2** | **Total hours of teaching: 60** |
| **Teaching staff:** | Selma Škrbo, PhD, associate professorNaida Omerović, MPharm, teaching and research assistant |
| **1. Course objectives:** | Introducing students to basic principles of clinical pharmacy in order for them to be able to provide their patients with rational pharmacotherapy and pharmaceutical care. |
| **1.1. Curriculum:****a) Lectures:**Introduction to clinical pharmacy: development, role, objectives and significance. Clinical trials. Evidence-based medicine and evidence-based pharmacy. Drug information sources. Identification and categorization of drug therapy problems and their relevance to rational pharmacotherapy. Creation of a treatment plan and treatment-monitoring in order to evaluate its success. Interpersonal communication. Laboratory data analysis. Adverse drug reactions: definition, categorization and risk-benefit assessment; basic principles of pharmacovigilance; organ-specific adverse drug reactions. Drug interactions. Individualization of pharmacotherapy. Drug administration in the pediatric population; problem of drug availability for children. Drug administration in the geriatric population. Drug administration to patients with liver and/or renal impairment. Drug administration during pregnancy and lactation period. Enteral and parenteral nutrition.**b) Practical work:**Therapeutics – general strategies: terminology of disease, case history, drug disposition and drug selection. Major pathological processes in disease. Pharmacotherapy of hypertension. Pharmacotherapy of heart failure. Pharmacotherapy of ischaemic heart disease. Pharmacotherapy of hyperlipidaemias. Pharmacotherapy of bronchial asthma and chronic obstructive pulmonary disease; inhalation therapy. Pharmacotherapy of cough: expectorants and antitussives. Pharmacotherapy of constipation and diarrhoea. Pharmacotherapy of dyspepsia, peptic ulcer disease and gastro-oesophageal reflux disease. Pharmacotherapy of inflammatory bowel disease. Pharmacotherapy of diabetes mellitus. Pharmacotherapy of hyper- and hypothyroidism. Pharmacotherapy of skin diseases. Pharmacotherapy of bipolar disorder, depression, anxiety and sleeping disorders.  |
| **1.2. Learning outcomes:** | Students are expected to understand basic principles of evidence-based medicine and evidence-based pharmacy, critically evaluate drug information sources, apply basic principles of clinical pharmacokinetics in order to implement rational pharmacotherapy as well as an individual approach to each patient, monitor and advise their patients about treatment, communicate with other health experts and patients about rational pharmacotherapy and practice health promotion. |
| **2. Course organization:** |
| **2.1. Structure of the course:** | 1. Lectures2. Practical work | 1. 50%2. 50% |
| **2.2. Grading:** | 1. Research paper2. Two term exams | 1. 20%2. 80% |
| **3. Literature:** |
| Mandatory:1. PowerPoint presentations, different handouts
2. Walker, R. and Edwards, C. eds., (2003). Clinical Pharmacy and Therapeutics. 3rd ed. London: Churchill Livingstone.

Additional:1. Greene, R.J. and Harris, N.D. eds., (2008). Pathology and Therapeutics for Pharmacists: A basis for clinical practice. 3rd ed. London: Pharmaceutical Press.
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