

## APPROACHES TO TEACHING MEDICINAL CHEMISTRY AND PHARMACEUTICAL ANALYSIS IN PHARMACY STUDY PROGRAM

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**Introduction:** the process of training pharmacists deserves special attention. The implementation of different approaches to teach the same content is often employed and can be equally successful.

**Aim:** to study approaches to the teaching medicinal chemistry and pharmaceutical analysis at the Department of Medicinal Chemistry and Department of Pharmaceutical Analysis, University of Zagreb Faculty of Pharmacy and Biochemistry.

**Materials and methods:** studying the descriptions of the content of the courses "Medicinal Chemistry 1 and 2" and "Pharmaceutical Analysis" at University of Zagreb Faculty of Pharmacy and Biochemistry.

**Results and discussion:** courses "Medicinal Chemistry 1 and 2" are taught on the 3<sup>rd</sup> year of study program "Master of Pharmacy". Both courses give the student knowledge on: general structural features of drugs belonging to the certain therapeutic class; relevant physicochemical properties; structure-activity relationship; structural influences on pharmacologic/toxicological/therapeutic profiles and relevant chemical reactions/synthetic pathways for selected drugs. The gained knowledge is the basis for the following courses: "Drug Metabolism", "Pharmacology" and "Pharmaceutical Analysis". The course "Medicinal Chemistry 1" also features laboratory exercises, where students perform synthesis of selected drugs. Students must pass the final test for laboratory exercises which is a prerequisite for written exam, and later oral exam.

The course "Pharmaceutical Analysis" is taught on the 4<sup>th</sup> year of study program "Master of Pharmacy" and gives students data about the system of analytics and quality control of medicines; the development and validation of analytical methods for pharmaceutical samples according to the methodology of the European Pharmacopoeia; modern analytical techniques for identification, purity testing and determination of pharmaceuticals. The course also features laboratory exercises where application of various analytical methods is taught. Students must pass entry and final test for laboratory exercises before taking the written and oral exam.

**Conclusions:** the content of the disciplines medicinal chemistry and pharmaceutical analysis taught at National University of Pharmacy (Kharkiv, Ukraine) and the University of Zagreb Faculty of Pharmacy and Biochemistry expands the possibility of synergistic interaction and offers possibility of mobility for students and teachers.