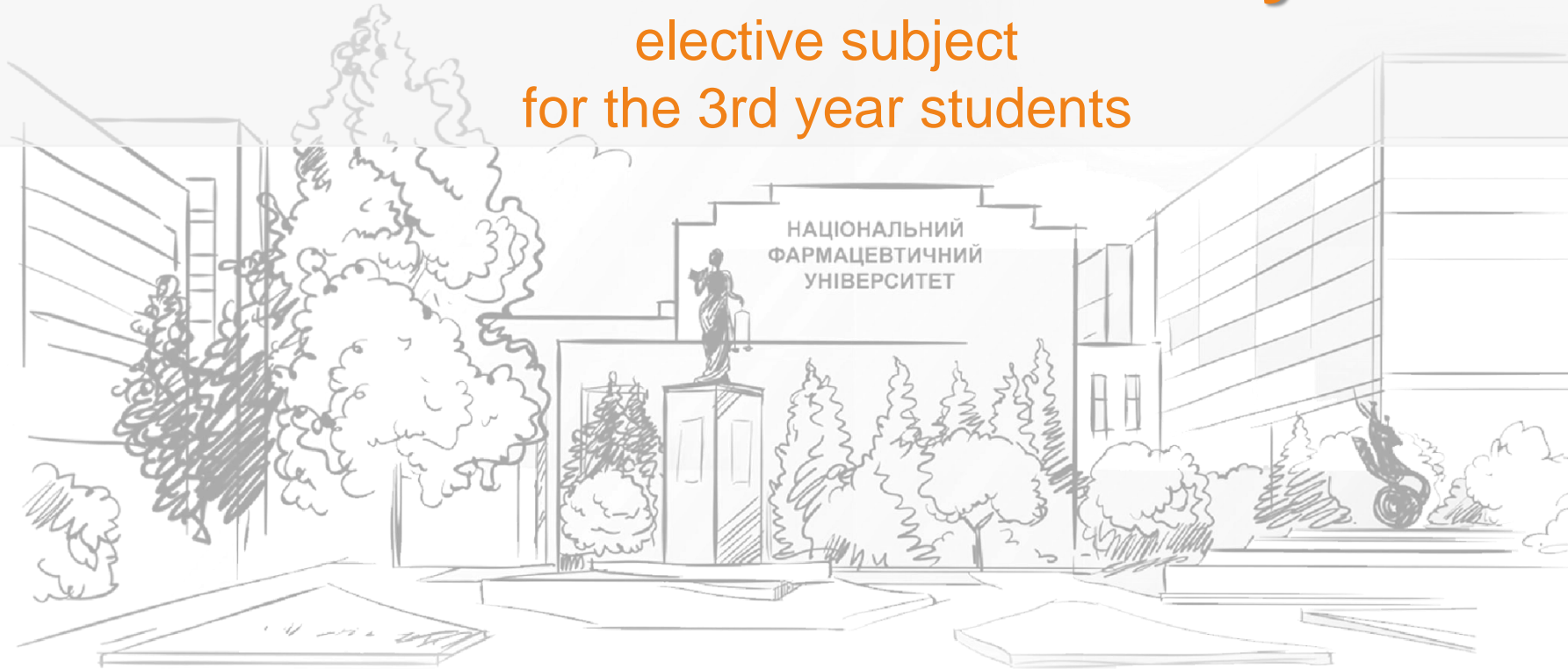




MINISTRY OF HEALTH OF UKRAINE  
NATIONAL UNIVERSITY OF PHARMACY  
DEPARTMENT OF BIOLOGICAL CHEMISTRY AND VETERINARY MEDICINE

# Biochemical transformation of Medications in the body

elective subject  
for the 3rd year students



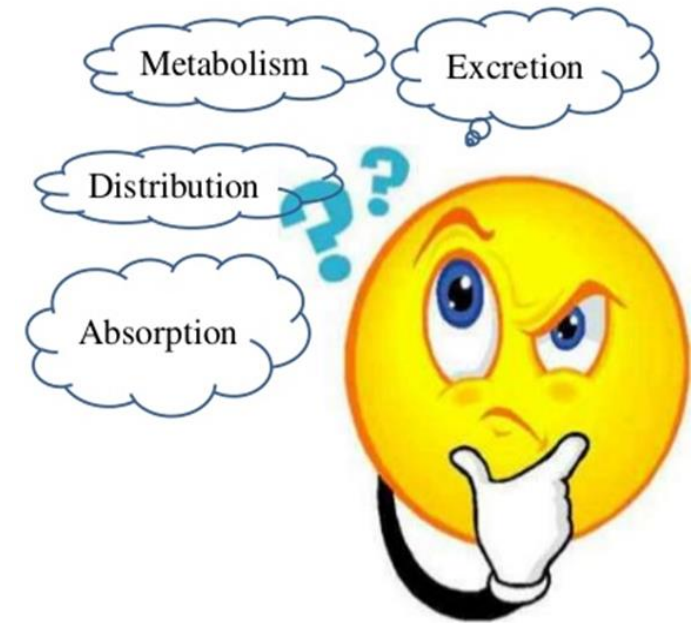
2023/2024 academic year

Subject

«Biochemical  
Transformation of  
Medications in the  
Body»

# An exciting connection between biological chemistry and pharmacy!

is the complex of biochemical knowledge that is used to perform the tasks of pharmacy, and studies the metabolism of medications in healthy and sick organism. The pharmaceutical biochemistry possibilities are widely used in solving problems of pharmacy with the involvement of the achievements of pharmaceutical chemistry, drug technology, toxicological chemistry.

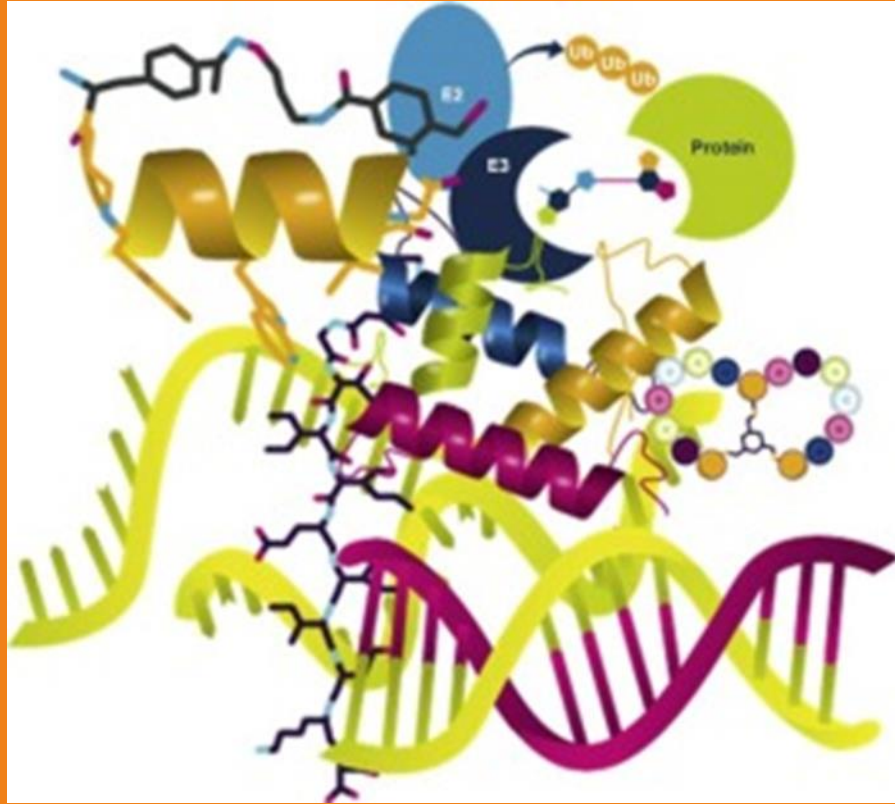


Elective subject  
«Biochemical Transformation of  
Medications in the Body» is thought  
**at the Department of Biological chemistry and  
Veterinary medicine** for the 3rd year students (studied in  
the 5th semester).

Hours per semester **3 credit ECTS (90 hours).**

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## The aim of studying

- get the basic knowledge of pharmaceutical drugs biotransformation in living organisms; to acquire knowledge about the functions of enzymes involved in the xenobiotics biotransformation systems to solve pharmacological, toxicological and medical problems.



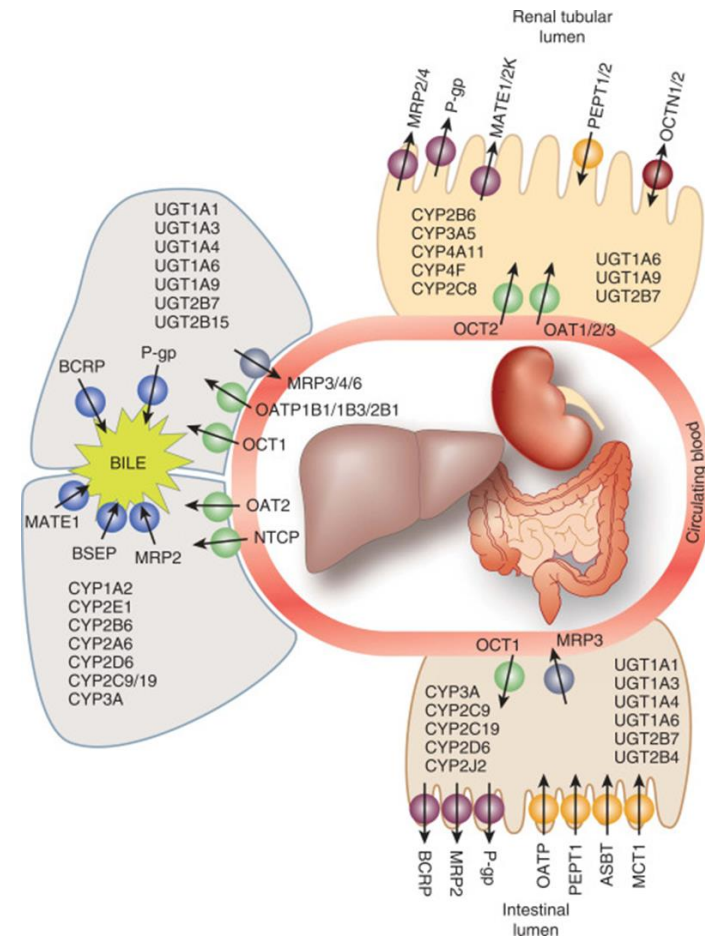
## The importance of subject in pharmaceutical education

For the master's degree program in Pharmacy it is necessary to obtain theoretical and practically significant information about the complex of medications (xenobiotics) biotransformation in biosystems of different levels of organization.



# After studying the course you will know

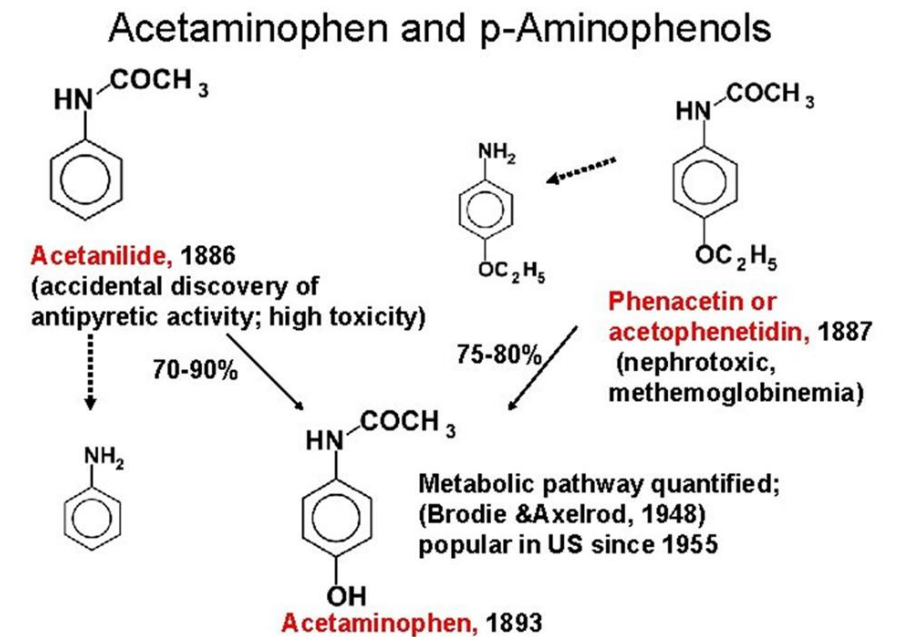
- a set of theoretical and practical knowledge about the biotransformation of substances to solve scientific and applied problems;
- skills of search, selection and use of information on biotransformation of medications.



# A little bit of history

the first results of the medication biotransformation study

Although paracetamol was first tested in 1893, other aniline derivatives were used until 1948. But in 1948 it was proved that paracetamol is the main metabolite of acetanilide in human blood. In 1949, phenacetin was also metabolized to paracetamol. This led to the "rediscovery" of paracetamol.



Paracetamol began to be widely used after the withdrawal of amidopyrine and phenacetin.

**For those who  
are interested in  
details**

## **Topics that we will master**

- ways of entering xenobiotics into the body;
- characteristics of hydrophilic and hydrophobic xenobiotics biotransformation ;
- intracellular localization, physicochemical and biochemical properties of the biotransformation system enzymes in metabolism of xenobiotics and endogenous compounds
- phases of xenobiotics biotransformation, main types of biotransformation reactions;
- biotransformation multilevel regulation mechanisms of substances;
- medication metabolism characteristics, factors affecting the biotransformation rate.

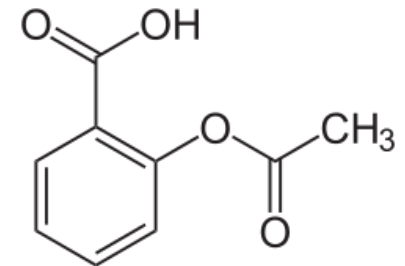


# Welcome!



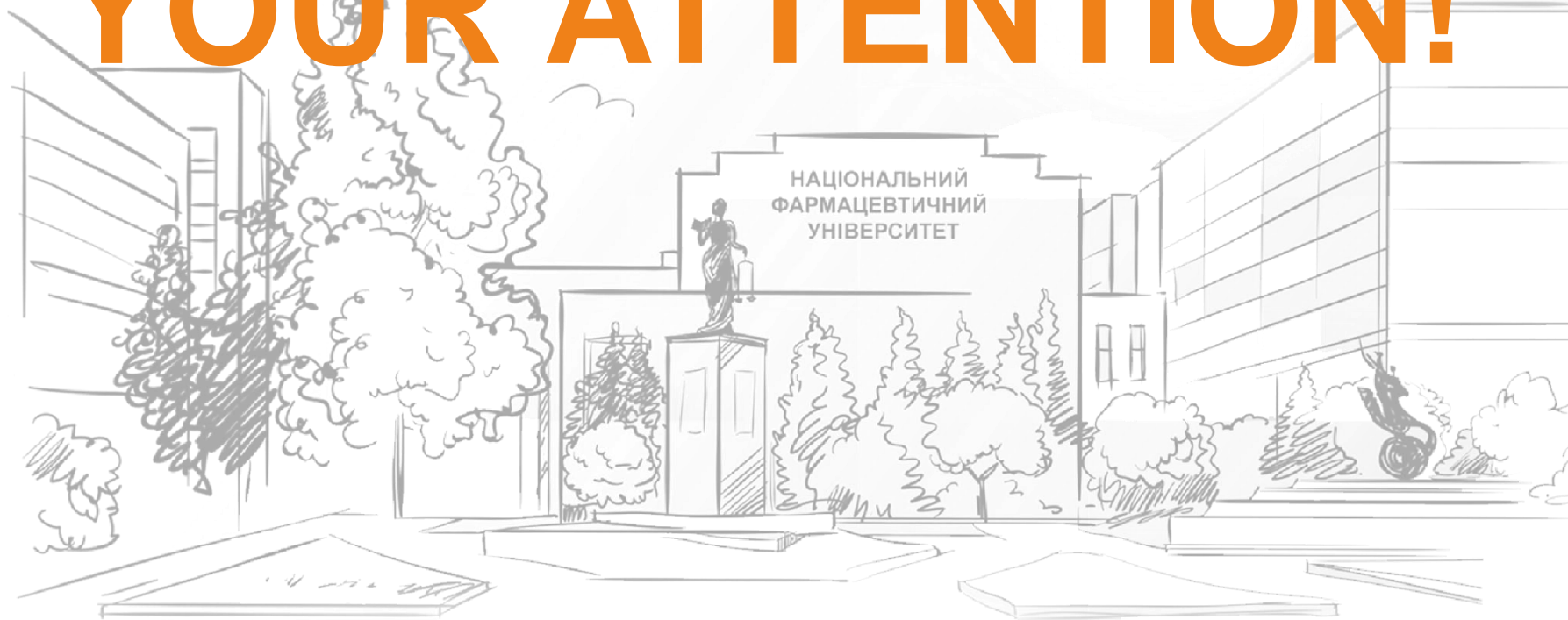
*If you are interested and want to get a general idea about the medication metabolic transformations in the human body, choose our course!*

**Contact information:** Department of Biological chemistry and Veterinary medicine,  
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*Acidum acetylsalicylicum*

# THANK YOU FOR YOUR ATTENTION!



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