

PHARMACOGNOSY 1

3rd year, master study programme

Term: 5th, winter term, academic year 2026/2027

Lectures : 2 hrs weekly

Lecturer : prof. Milan NAGY

SYLABUS OF LECTURES

1. Origin and history of pharmacognosy, its position in the science system.
Natural remedies and their sources. European Pharmacopoeia.
2. Classification systems for natural substances, methodology of pharmacognosy. Biogenesis of natural substances, primary and secondary metabolites, precursors, their relationships.
3. Saccharides, resins and gums – classification, occurrence, biosynthesis, properties and use
4. Terpenoids 1 – classification, biosynthesis, occurrence, properties – hemiterpenes, monoterpenes
5. Terpenoids 2 – classification, biosynthesis, occurrence, properties – sesquiterpenes, diterpenes
6. Terpenoids 3 – classification, biosynthesis, occurrence, properties – triterpenes, tetraterpenes, polyterpenes
7. Polyketides – classification, biosynthesis, occurrence, properties – waxes, fats, oils, anthranoids, alkylphenolic acids, phloroglucinols
8. Shikimates – classification, biosynthesis, occurrence, properties – phenylethanoids, phenylpropanoids, lignans, phenylpropenes, coumarins, benzoic acid derivatives, cinnamic acid derivatives, simple phenols, simple naphthoquinones
9. Shikimates with polyketide pathway participation – classification, biosynthesis, occurrence, properties – flavonoids, flavolignans, tannins, arylalkanonones, diarylheptanoids, styrylpyrones, stilbenes, xanthonones
10. Alkaloids 1 – classification, biosynthesis, occurrence, properties – derivatives of ornithine, lysine, asparagic acid
11. Alkaloids 2 – classification, biosynthesis, occurrence, properties – tyrosine derivatives
12. Alkaloids 3 – classification, biosynthesis, occurrence, properties – tryptophan derivatives
13. Alkaloids 4 – classification, biosynthesis, occurrence, properties – histidine, arginine, and anthranilic acid derivatives. Alkaloids and pseudoalkaloids from transamination reactions. Xanthine derivatives. Sulphur containing molecules.

assoc. prof. PharmDr. Silvia Bittner Fialová, PhD.
Head of the Department