COURSE DESCRIPTION CARD - SYLLABUS

Course name
Technology of Phytotherapeutic Products and Cosmetics

Course

Field of study
Pharmaceutical Engineering
Area of study (specialization)
-
Level of study
First-cycle studies
Form of study
full-time

Year/Semester
3/5
Profile of study
general academic
Course offered in
polish
Requirements
compulsory

Number of hours

Lecture
15
Laboratory classes
15
Other (e.g. online)
0
Tutorials
0
Projects/seminars
0

Number of credit points

2

Lecturers

Responsible for the course/lecturer:
PhD Renata Dawid-Pać

Responsible for the course/lecturer:
PhD Joanna Nawrot

PhD Maria Urbańska

Prerequisites

Basic knowledge of plant raw materials and their active compounds.

Course objective

To acquaint the student with methods of obtaining active compounds from plant materials in laboratory and industrial conditions, based on modern technologies and under the principles of good laboratory practice. Students are acquiring the skills to prepare traditional forms of herbal medicines and cosmetic

preparations and understanding the role and place of raw materials of natural origin in herbal medicine and cosmetology.

Course-related learning outcomes

Knowledge

1. The student knows plant raw materials and methods of extraction active compounds from plants in the pharmaceutical industry [K_W13].

2. The student knows methods of searching for new herbal medicines and the mechanisms of action of natural substances in herbal medicines and cosmetic preparations. The student undestans the pharmacopeial standards and norms associated with pharmaceutical engineering [K_W24].

3. The student has detailed knowledge of plant substances for pharmaceutical and cosmetic use, dietary supplements and their production [K_W25].

4. The student knows the apparatus and methods used in the technology of herbal medicine and cosmetic preparations [K_W21].

Skills

1. The graduate is able to use the literature describing methods of qualitative and quantitative assessment of plant material (Company Standards, Pharmacopoeia Poland) in Polish and a foreign language (Pharmacopea Europea) [K_U8].

2. Is able to apply basic techniques for isolating active compounds from plant materials [K_U9].

3. Can prepare a traditional form of herbal medicine and cosmetics preparations [K_U9].

4. Is able to correctly usage plants raw materials in the medicinal and cosmetic formulation [K_U9].

Social competences

1. The skills of responsible teamwork [K_K2].

2. The student is ready to make decisions independently. Has a sense of responsibility for one's own work and is willing to comply with the principles of teamwork and taking responsibility for collaborative tasks are aware of their responsibility for their work and liability for the results of the teamwork [K_K2].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Discussion during the lecture. Active participation in the proposed classes. Observation of student work during laboratory classes and assessment of the ability to work independently and work in a team. Correct performance of tasks and presentation of the laboratory report. Written final test - carried out in the form of a single-choice test and open questions. A positive assessment is given to students who obtained a minimum of 60% of correct answers.

Programme content

Lectures: introduce the possibilities of plant raw materials in modern medicinal and cosmetic preparations, indicating the sources from which they are obtained and their mechanisms of action, the adverse effects of plant raw materials, search for new herbal medicines and plant cosmetics.

Laboratory classes: the use of plant raw materials in cosmetics and the pharmaceutical industry; obtaining plant extracts, isolating natural compounds used in plant medicines and cosmetics; forms of cosmetics and medicinal preparations based on natural resources - creating recipes and making various forms of drugs and cosmetics; tours to herbal product manufacturing factory.

Teaching methods

Lecture: multimedia presentation. Laboratory classes: visits to manufacturing plants; precise execution of the tasks entrusted by the teacher.

Bibliography

Basic

1. Janicki S., Fiebig A.: Farmacja stosowana. Podręcznik dla studentów farmacji; Wydawnictwo Lekarskie PZWL, Warszawa 2013.

2. Müller R.H., Hildebrand G.E. (red.): Technologia nowoczesnych postaci leków; PZWL, Warszawa 2003.

3. Strzelecka H. et al.: Chemiczne metody badań roślinnych surowców leczniczych: podręcznik dla studentów farmacji; Wydawnictwo Lekarskie PZWL, Warszawa 1987.

Additional

1. Nowak G., Nawrot J. (red.).: Leki pochodzenia naturalnego. Wyd. UMP. Poznań 2017

2. Martini M.-C. Kosmetologia i farmakologia skóry. PZWL. Warszawa 2007.

3. Malinka W.: Zarys chemii kosmetycznej. Volumed, Wrocław 1999.

4. Zieliński R.: Surfaktanty – towaroznawcze i ekologiczne aspekty ich stosowania. Wyd. Akademii Ekonomicznej, Poznań 2000.

Breakdown of average student's workload

	Hours	ECTS
Total workload	55	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for laboratory classes, preparation for test) [1]	25	1,0

[1] delete or add other activities as appropriate