

Odessa National Medical University
Faculty of Pharmacy
Department of Pharmacology and Pharmacognosy

Syllabus course

Educational practice in pharmaceutical botany

Amount	3 credits / 90 hours
Semester, year of study	IV semester, 2nd year of study
Days, time, place	According to the schedule in the classroom 101 of the Department of Pharmacology and Pharmacognosy (pharmacognosy cycle). Street Malinowski, 37 Odessa Arboretum and Gorky Park Odessa Botanical Garden of ONU named after II Mechnikov, French Boulevard, 48/50
Teacher (s)	Bogatu Svitlana Ihorivna, Candidate of Medical Sciences, Assistant Kovalchuk Iryna Viktorivna, Candidate of Pharmaceutical Sciences, Assistant
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Workplace	Office № 107 (Bogatu SI, Kovalchuk IV) № 105 (Rozhkovsky YV) of the Department of Pharmacology and Pharmacognosy. Street Malinowski - 37
Consultations	<i>Eye consultations</i> : Thursday from 15.00 to 17.00; Saturday from 9.00 to 13.00 <i>Online consultations</i> : Thursday from 15.00 to 17.00; Saturday from 9.00 to 13.00 https://moodle.odmu.edu.ua/ or via <i>Telegram / viber</i>

COMMUNICATION

Communication with students will be through face-to-face meetings. In case of transition to distance learning, communication with students will be carried out by means of E-mail and programs: Microsoft Teams, Telegram and Viber.

COURSE ANNOTATION

The subject of study of the discipline

The subject of study of the discipline "Educational practice in pharmaceutical botany" are morphological features of plant organs, representatives

of medicinal and food higher plants, algae, fungi, lichens of various natural and artificial phytocenoses, their definition, systematic, ecological, cenological, geographical characteristics, development phases; measures for the rational use and renewal of medicinal plant resources.

Prerequisites and postrequisites of the course (Place of discipline in the educational program):

The discipline "Pharmaceutical Botany" lays the foundations for the study of disciplines "Pharmacognosy", "Resource Science of Medicinal Plants", "Educational Practice in Pharmacognosy", "Pharmaceutical Biotechnology".

The purpose of the course.

The purpose of the discipline is: consolidation, expansion, deepening, use and supplementation of theoretical knowledge and skills in morphology, taxonomy, ecology, coenology and geography of plants through educational and cognitive, emotionally motivated contact with nature.

Tasks of the discipline :

- acquaintance with natural and artificial phytocenoses, their medicinal plants, fungi and lichens;
- observation of some ecological adaptations, biological phenomena of plant organisms in dynamics;
- establishment on diagnostic signs independently and by means of determinants of systematic belonging of plants to a family, sort, kind; providing morphological and ecological description of a particular plant;
- distinguish botanically related species from medicinal plants, which are unacceptable impurities to LRS;
- recognition of poisonous, food, essential oil plants, weeds; paying attention to the organs that are plant raw materials;
- acquaintance with the plants cultivated in the open and closed soil, rules of care of them; awareness of the peculiarities of development and the sanitizing role of plants in urban conditions;
- mastering the methods and techniques of herbarium plants, the rules of herbarium design;
- collection of plants for their further herbarium;
- acquaintance with features of preparation of LRS;
- collection, processing and storage of plant material to ensure teaching and research work;
- development of the ability to formulate and substantiate conclusions about the biological state of plants, their life form, age, dependence of the structure and composition of BAS on phenophases, places and conditions of existence;
- awareness of the importance of plants in nature, medicine, pharmacy, economy, etc.
- acquaintance with medicinal plants of the Red Books of Ukraine, formation of a caring attitude to the environment, acquisition of skills in protection, rational use and renewal of medicinal plant resources.

Expected results

According to the study of the discipline, students must

know:

- goals and objectives of educational practice in pharmaceutical botany, its connection with professionally oriented disciplines;
- groups of plants by purpose, systematic position, ecological conditions, life form, structure, presence of certain groups of BAS, therapeutic action, etc., their role and significance in nature and human life, use in pharmacy and medicine;
- elements of ecology, coenology and geography of plants: the nature of the influence of certain environmental factors on the structure of plants and the content of BAS; regularities of the structure of phytocenoses, the nature of their distribution within Ukraine, habitats of medicinal plants;
- morphology of plant organs and their metamorphoses;
- general characteristics of some families, species characteristics, growth conditions, resources, the presence of certain groups of biologically active compounds, the importance and use of medicinal plants, fungi and lichens;
- the value of the herbarium, the rules of collecting herbarium material and making herbarium specimens;
- basic requirements of the current legislation of Ukraine on the use of plant resources; plants that are officially protected in Ukraine.

be able:

- identify morphological features and describe the vegetative organs of plants and their metamorphosis as a plant raw material;
- dissect and describe the generative organs of plants;
- determine the morphological characteristics of the plant independently and by determinant; characterize medicinal plants by stages of development;
- to recognize medicinal plants of different phytocenoses, as well as on herbarium specimens, photographs and drawings;
- distinguish between poisonous plants, inform the population about the dangerous consequences of their use;
- generalize the obtained results, formulate and argue the conclusions, draw up the results of the study.

have:

- botanical terminology;
- safety skills;
- methods of morphological analysis, visual observation, identification, identification of plants;
- plant reproduction and care skills;
- techniques and skills of preparation of botanical objects, collection, herbarium and fixation of plant educational and reference material.

COURSE DESCRIPTION

Forms and methods of teaching

The course will be presented in the form of practical classes (30 hours), organization of independent work of students (60 hours).

The study of the discipline should be implemented on the basis of methods of problem statement, heuristic, research, interactive (project method).

The content of the discipline

Topic 1. Content of practice. Methods of botanical, phenological, resource research, rules of collection and fixation of plant material.

Topic 2. Criteria for plant classification. Plant resources of Ukraine.

Topic 3. Cultivated plants, their reproduction. Segetal weeds.

Topic 4. Greenhouse, houseplants, their reproduction, care.

Topic 5. Artificial plant systems of the botanical garden.

Topic 6. Woody-shrub vegetation of the city, ruderal weeds.

Topic 7. Vegetation of forest phytocenoses.

Topic 8. Vegetation of reservoirs and coastal zone.

Topic 9. Meadow-steppe vegetation.

Topic 10. Final control.

List of recommended reading

1. Pharmaceutical botany: textbook / Т.М.Gontova, А.Н.Serbin, S.М.Marchyshyn; edited by Т.М.Gontova. – Ternopil: TSMU, 2018 p. – 380 p.
2. Фармацевтическая ботаника для иностранных студентов = Pharmaceutical botany for international students : учеб.-метод. пособие / Н. С. Гурина [и др.]. – Минск : БГМУ, 2017. – 112 с.
3. Shipunov, Alexey. Introduction to Botany. January 20, 2020 version. 192 pp. URL: http://ashipunov.info/shipunov/school/biol_154/
4. Gullko R. Explonatory dictionary of medical botany / R.Gullko. – Vinnitsya Publishes “Nova Knyha”, 2006. – 218p.
5. Reddy S.M. University Botany – 3: (Plant Taxonomy, Plant Embryology, Plant Physiology) / S.M.Reddy – New Delhi: New Age International, 2004. – 388 p.

EVALUATION

Methods of current control: Evaluation of the success of the study of each topic of the discipline is performed on a traditional 4-point scale.

Current performance is calculated as the average current score, ie the arithmetic mean of all grades obtained by the student on a traditional scale, rounded to 2 (two) decimal places , for example 4.75.

Assessment of current control in the discipline:

The value of the grade "**excellent**": the student shows special creative abilities, is able to acquire knowledge independently, without the help of the teacher finds and processes the necessary information, is able to use acquired knowledge and skills to make decisions in unusual situations, convincingly argues answers.

The value of the grade "**good** ": the student is fluent in the studied amount of material, applies it in practice, freely solves exercises and problems in standard situations, independently corrects mistakes, the number of which is insignificant.

The value of the assessment is "**satisfactory** ": the student reproduces a significant part of the theoretical material, shows knowledge and understanding of the basic provisions; with the help of the teacher can analyze the educational material, correct mistakes, among which there are a significant number of significant ones.

The value of the assessment is "**unsatisfactory** ": the student has the material at the level of individual fragments that make up a small part of the study material.

Only those students who do not have academic debt and have an average score of at least 3.00 for current academic activities are allowed to take the final certification.

Assessment of the current test control in the discipline:

- "5" - 100-91% of correct answers;
- "4" - 90-71% of correct answers;
- "3" - 70-60.5% of correct answers;
- "2" - less than 60% of correct answers.

Forms and methods of final control:

The form of final control of knowledge in the discipline is a differential test

The average score for the discipline is translated into the traditional grade from the discipline on a 4-point scale and is regarded as the ratio of this arithmetic mean to the percentage of mastering the required amount of knowledge in this subject.

GPA for discipline	The ratio received by the student average score for the discipline to the maximum possible value of this indicator	Score from discipline on a 4-point scale (traditional assessment)
4.45 - 5.0	185-200	5
3.75 - 4.44	151-184	4
3.0 - 3.74	120-150	3

Independent work of students .

Students' independent work, which is provided by the topic of the lesson along with the classroom work, is assessed during the current control of the topic in the relevant lesson. Assimilation of topics that are submitted only for independent work is checked at the last lesson.

COURSE POLICY ("rules of the game")

Deadline and recompilation policy: tasks to be completed on time according to the deadline. For late performance of the task the student receives an unsatisfactory grade. Rearrangement is carried out according to the approved schedule.

Academic Integrity Policy :

Adherence to academic integrity by students provides:

- ♦ independent performance of educational tasks, tasks of current and final control of learning outcomes (for persons with special educational needs this requirement is applied taking into account their individual needs and opportunities);
- ♦ links to sources of information in the case of the use of ideas, developments, statements, information.

Policy attendance and tardiness. To obtain a satisfactory grade, it is mandatory to attend and work in classrooms (lectures and practical classes). The student is allowed to be late for no more than 10 minutes.

Mobile devices: *You* can use mobile devices in class with the permission of the teacher.

Audience behavior:

While in the audience are important: respect for colleagues; tolerance for others; susceptibility and impartiality; the ability to disagree with the opinion, but to respect the personality of the opponent (during discussions); careful argumentation of the opinion; adherence to the ethics of academic relations.