

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

**Syllabus course**

**RESOURCE MANAGEMENT OF MEDICINE PLANTS**

<b>Amount</b>	3 credits / 90 hours
<b>Semester, year of study</b>	II semester, 5 years of study
<b>Days, time, place</b>	According to the schedule in the auditorium 108,109 of the Department of Pharmacology and Pharmacognosy (pharmacognosy cycle). Street Malinowski - 37
<b>Teacher (s)</b>	Chernogoryuk Valeria Valerievna, assistant of the department Kovalchuk Iryna Viktorivna, Candidate of Pharmaceutical Sciences, Assistant Boyko Iryna Anatoliivna, Ph.D., senior lecturer
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<b>Workplace</b>	Office № 107 of the Department of Pharmacology and Pharmacognosy (pharmacognosy cycle). Street Malinowski - 37
<b>Consultations</b>	<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 <a href="https://moodle.odmu.edu.ua/">https://moodle.odmu.edu.ua/</a> 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*

Discipline "Resource science of medicinal plants" is a science whose object of study - the natural resources of medicinal plants, including their diversity, growing conditions, distribution, reproduction, protection, condition and dynamics of raw materials of medicinal plants as sources of raw materials for medicinal products and their use in medicine.

This course should give students an idea of the state of plant resources of medicinal plants in the country and their rational use at the present economic stage, to acquaint with the range of medicinal plant raw materials, which are widely used in the pharmaceutical industry and practical pharmacy and medicine.

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

Much attention of this discipline is focused on the accounting of plant resources, determining their yields, reproduction of stocks of certain types of medicinal raw materials and their introduction.

*The purpose of the course.*

The purpose of teaching the discipline "Resource Science of Medicinal Plants" is to form students' skills and abilities to develop a rational regime of procurement of medicinal plant raw materials depending on the biological characteristics and ecological and phytocenotic conditions of growth of medicinal plants; development of a unified system of protection and reproduction of medicinal plant resources (organization of reserves, assigned lands, cultivation of natural thickets, etc.); development of economics of the procurement process of medicinal plant raw materials.

*Tasks of the discipline :*

- study of the state of use of LRS resources and natural vegetation as sources of LRS resources;
- study of the species composition of medicinal plants, their range and ecological and phytocenotic growth conditions;
- determination of yield of medicinal plant raw materials;
- determination of the volume and location of operational stocks of medicinal plant raw materials;
- chemical assessment of thickets of medicinal plants and the establishment of phenophases of maximum accumulation of biologically active substances (BAS);
- calculation of the volume of possible annual procurement of medicinal plants;
- mapping of thickets and stocks of medicinal plants; study of phenorhythms and terms of reproduction of the initial stock of medicinal plant raw materials in connection with biological and ecological phytocenotic conditions of growth of medicinal plants.

*Expected results*

According to the study of the discipline, students must

**know:**

- ways to solve the problem of rational use of medicinal plant resources;
- typification of natural vegetation and taxonomic units of vegetation;
- ecological and phytocenotic conditions of growth of medicinal plants or their confinement to different phytocenoses:
  - a) medicinal plants of forests;
  - b) medicinal plants of meadows and steppes;
  - c) medicinal plants of swamps and reservoirs;
  - d) medicinal plants of weed groups.
- types of specialized geobotanical maps (fodder, forest, forest planting plans), general geobotanical and land management maps (land use plans, district and regional land management maps) that can be used for resource research;

- the concept of association and groups of associations;
- structure of phytocenoses (meadow, forest, swamp);
- the concept of biological and operational stock, the possible annual volume of raw materials;
- the concept of specific thickets and key area;
- methods for determining reserves in specific thickets of key areas;
- complexes of resource research of medicinal plants;
- basics of mapping the resources of useful plants;
- scientific disciplines that underlie the rational use, protection and reproduction of medicinal plant resources;
- economic criteria (indicators) of rational use and protection of natural resources of medicinal plants.

***be able:***

- detect thickets of medicinal plants;
- map the distribution of medicinal plants;
- to keep records of stocks of medicinal plants;
- develop a plan of resource studies, based on the needs of the pharmacy network and industry;
- identify potentially productive survey arrays based on literature, forest assessment descriptions and other sources;
- identify medicinal plants as possible objects for resource assessment;
- to select cartographic materials of the survey area for application of thickets of medicinal plants and drawing up routes;
- develop working routes for resource research;
- make a list of necessary equipment, facilities and other materials for expeditionary research.

## **COURSE DESCRIPTION**

### ***Forms and methods of teaching***

The course will be presented in the form of lectures (10 hours) and practical (40 hours), organization of independent work of students (40 hours), only 90 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. Resource science as a science and academic discipline.

Topic 2. Raw material base of LR in Ukraine.

Topic 3. The use of drugs and phytopreparations in modern world medical practice.

Topic 4. Accounting for the resources of medicinal plants, the principles of their rational use and protection.

Topic 5. Cultivation of medicinal plants in Ukraine and the world.

### ***List of recommended reading***

1. State Pharmacopoeia of Ukraine: in 3 tons. / Derzhavne pidpriemstvo "Ukrainian Scientific Pharmacopoeia Center of Ikosti Likarsky Sokobiv". - 2nd view. - Kharkiv: Derzhavne pidpriemstvo "Ukrainian Scientific Pharmacopoeia Center for Sustainable Medicine," 2014. - T. 3. - 750 p.

2. The Law of Ukraine "On the Rosigna Svit" // Interiors of the Verkhovna Rada. - 1999. - No. 22 - 23.
3. Minarchenko V.M. Resource Consciousness. Likarskiy Roslini / VMarchenko V.M., Sereda P.I. [Primary community]. - Kyiv: Phytosociocentre, 2005. - 60 p.
4. The legal foundations of the victorist and the protection of natural resources of Ukraine / Marchenko V.M., Dudchenko L.G., Garnik, TP, Shurayava T.K. // Phytotherapy in Ukraine. - 2000. - № 1. - p. 45 - 47.
5. Resource of medicinal plants. Uch.posobie for stud. 5 courses of the pharmaceutical faculty / Rozhkovsky Ya.V., Derevinskaya T.I., Shevchenko I.M., Fizor N.S. - Odessa: ONMedU.-2010. -83 sec.

## 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 assessment is "**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 debts and have an average score of at least 3.00 for their current academic activity are allowed to take the final attestation.

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 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 :***

Observance of academic integrity by students of education 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 seminars). 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.