



**ODESSA NATIONAL MEDICAL UNIVERSITY
MEDICAL FACULTY № III
DEPARTMENT OF HYGIENE AND MEDICAL ECOLOGY**

**SYLLABUS
FOR THE SECOND COURSE OF MEDICAL FACULTIES
FROM THE DISCIPLINE "ECOLOGY. HUMAN MICROBIAL ECOLOGY »**

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|--------------------------------|---|
| Amount | 60 hours 2 credits |
| Semester, studying year | 4 semester 2019-2020 s.y. |
| Days, time, place | Department of Hygiene and Medical Ecology, st. Pishonivska, 1. 3-4 floor Days and time - according to the schedule |
| Teachers | Docent Kobolev E.V., Docent Ganykina S.O., assistants Sheikh Ali D.H., Mokienko A.V., Goroshkov O.V., Levitsky A.V. |
| Contact phone | 063-765-0818 – head teacher of the Department Sheikh Ali Dani Husseinovich |
| E-mail | sanepidemiolog@i.ua |
| Consultations | Thursday – 3 15.00-16.30 Saturday – 9.00-12.00 |

COMMUNICATIONS:

Classes are held at the department, according to the schedule.

* Under quarantine classes will be held on the platform M Teams or Zoom. The Telegram platform is used to address organizational and current issues.

Head teacher's phone number – 063-765-0818. Sheikh Ali Dani Husseinovich

COURSE ANNOTATION:

The subject of study of the discipline are: **Ecology** - a field of medical knowledge, science that studies the laws of relations between organisms and the environment, as well as the organization and activity of superorganism systems (populations, species, biocenoses, biosphere)

The purpose of the course

The purpose of teaching the discipline "Ecology. Microbial ecology of the person "is: acquaintance of applicants with forms of mutual relations of microorganisms among themselves, with other organisms and environment.

During the mastering of the discipline "Ecology. Microbial Ecology of Man "the student must acquire special (professional, subject) competencies:

SC 6. Ability to apply the basic principles and methods of epidemiological diagnosis, epidemiological analysis, surveillance of infectious and non-infectious diseases, including those related to the provision of medical care.

SC11 Ability to plan and implement preventive and anti-epidemic measures for infectious diseases.

COURSE DESCRIPTION

Forms and methods of teaching

The course will be presented in the form of lectures (10 hours) and practical classes (20 hours). Organization of independent work of students (30 hours).

Multimedia presentations and laboratory devices are used during the teaching of the discipline.

Course content:

| ECOLOGY OF MICROORGANISMS | |
|---------------------------|---|
| № | Topic |
| 1. | The main physiological groups of soil microorganisms. Distribution of microorganisms in different types of soils. The role of microflora in soil fertility. |
| 2 | Microbiological fertilizers, technology of their application, conditions of efficiency |
| 3 | Technology of drinking water purification from chemical and microbial pollution. Mechanical, chemical and biological methods of wastewater treatment |
| 4 | Anthropogenic pollution of surface and wastewater. The main indicators of microbial water pollution. |
| 5 | The role of water microorganisms in the spread of human infectious diseases. Prevention of human diseases transmitted by water. |
| 6 | Modern methods of measuring microbial pollution of atmospheric air and air of the working area. |
| 7 | Nosocomial infections of microbial ecology. Types. Methods of prevention |
| 8 | The role of microorganisms in the development of intestinal infections. |
| 9 | Bacteriological dust. Diseases associated with it. Methods of prevention. |
| 10 | Test(control) |

List of recommended reading

1. Основи екології: Підручник для студ. вищих навч. закладів /В.Г. Бардов, В.І.Федоренко, Е.М Білецька та ін. - Вінниця: Нова Книга, 2013. - 424 с.

2. Радіаційна гігієна: підручник для лікарів-інтернів та лікарів слухачів / [Мурашко В.О., Мечев Д.С., Бардов В.Г. та ін.]. - Вінниця: Нова Книга, 2013. - 376 с.
3. Профілактика внутрішньолікарняних інфекцій (гігієнічні, епідеміологічні та мікробіологічні аспекти) / за редакцією В.Ф. Москаленка - К.: «Здоров'я», 2013. - 160 с.
4. Мельничук М.Д. Екологія біологічних систем (екологія мікроорганізмів): навчальний посібник / М.Д. Мельничук, О.Л.Кляченко, В.В. Бородай. – Вінниця: ТОВ «Нілан-ЛТД», 2014. - 248 с
5. Кривцова М.В., Ніколайчук М.В.: «Екологія мікроорганізмів». Навчальний посібник. – 2011. – 184
6. Гудзь С. П., Гнатуш С. О., Білінська І. С. Мікробіологія. – Львів: Вид. центр ЛНУ імені Івана Франка, 2009. – 359 с

EVALUATION

Current success.

Evaluation of the success of the study of each topic of the discipline is performed according to the traditional 4-point system.

Students' knowledge is assessed from both theoretical and practical training according to the following criteria:

- **Excellent (“5”)** – The student correctly answered $\geq 98\%$ of the tests of the format of the state license exams "Krok". Correctly, clearly, logically and fully answers all standardized questions of the current topic, including the question of the lecture course and independent work. Closely connects theory with practice and correctly performs practical work with writing a conclusion on the results. Freely reads the results of laboratory tests, solves situational problems of increased complexity, is able to summarize the material, has the methods of laboratory tests to the required extent.
- **Good (“4”)** – The student correctly answered $\geq 97\%$ - 95% of the tests of the format of the state license exams "Krok". Correctly, and essentially answers the standardized questions of the current topic, lecture course and independent work. Demonstrates performance (knowledge) of practical skills. Correctly uses theoretical knowledge in solving practical problems Can solve easy and medium-difficult situational problems. Has the necessary practical skills and techniques to perform in excess of the required minimum.
- **Satisfactory (“3”)** – The student correctly answered $\geq 90\%$ - 94% of the tests of the format of the state license exams "Step". Incomplete, with the help of additional questions, answers standardized questions of current activity, lecture course and independent work. Cannot build a clear, logical answer on their own. During the answer and demonstration of practical skills, the student makes mistakes. The student solves only the easiest problems, has only a mandatory minimum of research methods.
- **Unsatisfactory (“2”)** – The student answered less than 90% of the tests of the format of the state license exams "Step". Does not know the material of the current topic, can not build a logical answer, does not answer additional

questions, does not understand the content of the material. Makes significant, gross mistakes when answering and demonstrating practical skills

At the last practical lesson, the teacher is obliged to announce to students the results of their current academic performance, academic debt (if any), as well as when completing the curriculum to fill out the student's record book.

Only those students who do not have academic debts and their average score for the current academic activity in the discipline is not less than 3.00 are allowed to the final certification.

Final control of the discipline.

The form of final control is a test

The grade for the discipline is 50% current performance (arithmetic mean of all current student grades) and 50% - grade on the test.

To assess the discipline on a 4-point traditional (national) scale from the beginning, the average score for the discipline is calculated as the arithmetic mean of the two components:

The average current score, as the arithmetic mean of all current scores, is rounded to two decimal places.

The average score for the discipline is translated into the traditional assessment of 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.

Thus, if the discipline ends with a credit, the student receives two grades - the first on the traditional 4-point system and the second on a 200-point system.

Independent work of student

The topics of the IWS are defined by the curriculum of the discipline.

The student must prepare an essay on each topic of IWS.

IWS assessment is conducted in the last practical lesson 4 and 5 semesters.

COURSE POLICY

Terms of mastering the course:

- Mandatory attendance;
- Activity during practical classes;
- Preparation for classes, homework and VTS, etc .;
- Delivery of tasks in due time;
- Be tolerant, open and friendly;
- Constructively maintain feedback in all classes;
- Be punctual and mandatory;

Not allowed:

- Omissions for disrespectful reasons;
- Delay and unauthorized departure from the classroom or lecture hall (for late student is not allowed to classes / lectures because it disrupts the educational process. Also for violation of discipline, the student is removed from the classroom and receives "nb");
- Use of mobile phones, tablets, laptops, smart watches, etc. during practical classes and lectures;
- Late delivery of tasks, etc. (Tasks not passed in the specified terms are not accepted and the estimation "2" is exposed);
- Violation of any rules established by the moral and ethical code of ONMedU

Deadline and recompilation policy

Reassignment of missed practical / seminar classes is carried out according to the schedule of the department, the next teacher. The schedule of shifts of teachers of the department is placed on the information stand for students (4th floor)
The practice of missed lectures takes place every Thursday to the head of the department.

Adherence to academic integrity by students provides:

1. 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);
2. References to sources of information in the case of the use of ideas, developments, statements, information;
3. Compliance with the law on copyright and related rights;
4. Providing reliable information about the results of their own (scientific, creative) activities, used research methods and sources of information.

Unacceptable in educational activities for participants in the educational process are:

- use of family or business ties to obtain a positive or higher assessment in the implementation of any form of control of learning outcomes or advantages in scientific work;
- use of prohibited auxiliary materials or technical means (cheat sheets, abstracts, headphones, telephones, smartphones, tablets, etc.) during control measures;
- passing the procedures of control of learning outcomes by fictitious persons.

For violation of academic integrity, students may be held subject to the following academic liability:

- reduction of results of assessment of control work, examination, credit, etc. ;
- repeated assessment (test, exam, test, etc.);
- appointment of additional control measures (additional individual tasks, tests, tests, etc.);
- re-passing the relevant educational component of the educational program;
- conducting additional verification of other works by the infringer;

- deprivation of the right to participate in competitions for scholarships, grants, etc .;
- notification of the entity that finances the training (research), the institution that issued the grant for training (research), potential employers, parents of the applicant for higher education about the violation;
- exclusion from the ranking of applicants for academic scholarships or accrual of penalty points in such ranking;
- deprivation of an academic scholarship;
- deprivation of tuition benefits provided by the University;
- expulsions from the University.

Attendance and lateness policy:

- Delays in practical classes, seminars and lectures are not allowed. In case of delay, the student is not allowed to the classroom and receives "nb" in the magazine.

Mobile devices:

- The use of any mobile devices is prohibited. In case of violation of this clause, the student is removed from the lesson or lecture and receives a "nb" in the log.

Audience behavior:

Student behavior in classrooms must comply with the rules established by the moral and ethical code of the university.