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

Syllabus course

COMPUTER MODELING IN PHARMACY

Amount	3 credits / 90 hours
Semester, year of study	V semester, III year of study
Days, time, place	According to the schedule in the classroom 112 of the Department of Pharmacology and Pharmacognosy (pharmacognosy cycle). Street Malinowski - 37
Teacher (s)	Rozhkovsky Yaroslav Vladimirovich, Doctor of Medicine, Professor Prystupa Bogdan Volodymyrovych, Ph.D., senior lecturer Razkevich Olesya Stepanovna, Candidate of Pharmaceutical Sciences, Assistant
Contact phone	0934510278
E-mail	yarro@ukr.net - Rozhkovsky Ya.V. bodernet@meta.ua - Pristupa BV razkevich1984@ukr.net - Razkevich OS
Workplace	Cabinet № 110 (Prystupa BV), № 107 (Razkevich OS) № 105 (Rozhkovsky YV) of the Department of Pharmacology and Pharmacognosy. Street Malinowski - 37
Consultations	*Eye consultations* : Thursday from 15.00 to 17.00; Saturday from 9.00 to 13.00 *Online consultations:* Thursday from 15.00 to 17.00; Saturday from 9.00 to 13.00 https://moodle.odmu.edu.ua/ or via *Telegram / viber*

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 "Computer modeling in pharmacy" are information processes involving the use of a personal computer.

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

Course (elective course) "Computer modeling in pharmacy" *is based* on the study of disciplines by students and integrates with these disciplines: medical and biological physics, European standard of computer literacy, physical and colloid

chemistry, technology of dosage forms, pharmacognosy, organic chemistry and bioorganic chemistry, pharmaceutical chemistry and information technology in pharmacy, and *lays the foundations* for the study of disciplines of good pharmaceutical practice, organization and economics of pharmacy, management and marketing in pharmacy and resource science of medicinal plants.

The purpose of the course.

The purpose of teaching the discipline "Computer Modeling in Pharmacy" is to provide the necessary knowledge to students of the Faculty of Pharmacy in the field of innovative technologies in pharmacy related to computerization for use in future practical activities of a pharmacist.

Tasks of the discipline :

The task of the discipline is to master the basic software packages used in pharmacy, acquaintance with innovative approaches to the creation of drugs and their software; study of modern medicines created on the basis of innovative technologies and the use of the Internet for professional activities.

Expected results

According to the study of the discipline, students must

know:

- features of use and possibilities of application of the personal computer at the decision of medico-biological problems, possibilities of operating systems and the software for the decision of professional problems and at work with file structure;
- packages of modern computer programs used in pharmacy;
- databases available on the Internet
- innovative technologies in pharmacy and their software;
- basic techniques of obtaining structural information, building databases, virtual screening based on available computer software packages;
- modern medicines and leading structures that have been designed using computer technology.

be able:

- identify opportunities for the use of computer technology and PC in pharmacy;
- explain the principles of formalization and algorithmization of pharmaceutical problems, the principles of modeling in pharmacy and medicine;
- demonstrate basic PC skills and search for pharmaceutical information using information technology;
- use methods of processing pharmaceutical information.

COURSE DESCRIPTION

Forms and methods of teaching

The course will be presented in the form of lectures (4 hours) and practical (36 hours), organization of independent work of students (50 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. Basic concepts of pharmaceutical informatics. Creation and maintenance of pharmaceutical and medical documentation by means of a word processor.

Topic 2. Information technology tools. Special software for the professional activities of a pharmacist.

Topic№3. Fundamentals of building information technology for solving pharmaceutical problems. Information systems in a spreadsheet environment.

Topic №4. "Types of modern information technology.

Topic№5. "Support for databases in ET. Data analysis in Excel.

Topic 6. "Principles of the Internet. Solving information retrieval tasks on the Internet. "

Topic № 7. Basic services of the global network. Pharmaceutical resources and Ukrainian pharmacy on the Internet.

Topic 8. Multimedia information processing systems.

Topic 9. Ability to demonstrate presentations using MS Power Point.

List of recommended reading

1. Medical Informatics : textbook / I.Ye. Bulakh, Yu.Ye. Liakh, V.P. Martseniuk, I.Yo. Khaimzon. — 4th edition. — Kyiv : AUS Medicine Publishing, 2018. — 368 p.
2. Word 2010 Advanced: Part I Templates, Forms and Styles / Stephen Moffat, The Mouse Training Company. 2014. 437p.
3. Introduction to Computer Science: A Textbook for Beginners in Informatics Paperback Gilbert Brands 2013. 247p.
4. Evidence-Based Medicine: How to Practice and Teach It / Sharon E. Straus MD. - : Churchill Livingstone; 4 edition, 2010. - 312 p.
5. ACD/ChemSketch. www.acdlabs.com/chemsketch/ Advanced Chemistry Development, Inc., Toronto, ON, Canada. 4 February 2013.
6. OCR A Level Computer / Science George R. - : Hodder Education; UK ed. Edition, 2015. - 280 p
7. Discovering Computers ©2018: Digital Technology, Data, and Devices / Misty Vermaat. - : Course Technology; New edition edition, 2017. - 736 p.
8. Cyber-Security Education: Principles and Policies (Routledge Studies in Conflict, Security and Technology) / Greg Austin - : Routledge; 1 edition, 2020. - 240 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 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 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.