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MINISTRY OF EDUCATION AND SCIENCE OF RUSSIA

**Federal State Budgetary Educational Institution
of higher education
«I.N. Ulianov Chuvash State University»
(FSBEI of HE «I.N. Ulianov Chuvash State University»)**

Medical Faculty

Department of Healthcare Management and Information Technologies in Medicine

«APPROVE»

Vice-rector for Academic Affairs


I.E. Poverinov

« 13 » 04 2022

**Working programs of the discipline (module)
«История медицины / History of Medicine»**

Direction of training / specialty 31.05.03 Стоматология / Dentistry
Graduate's qualification Врач-стоматолог / Dental Practitioner

Direction (profile) / specialization «Dentistry»

Form of training – очная / intramural

Course – 1

Term – 2

Total academic hours/credit points – 72/2

The year of beginning the training – 2022

The fundamental document for compiling the working program of the discipline (module)
Федеральный государственный образовательный стандарт высшего образования -
специалитет по специальности 31.05.03 Стоматология (приказ Минобрнауки России от
12.08.2020 г. № 984)

Approved by:

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The working program was approved at the meeting of the Department of Healthcare
Management and Information Technologies in Medicine,
23.03.2022, protocol № 8
Head of the department S.V. Lezhenina

Approved by

Dean of the Medical Faculty V.N. Diomidova

Acting Head of the Educational and Methodological Department E.A. Shirmanova

1. The purpose and objectives of training in the discipline (module)

The purpose of the discipline - tracing the logic of the development of medical thought along the entire path of the historical development of medicine, to identify epochal phenomena and discoveries significant for the whole of medicine as a whole, to study the historical stages of the formation of this science; the development of the main scientific directions in this field; the life and work of outstanding doctors and scientists; scientific achievements of their schools; the history of the most important scientific discoveries and achievements of practical medicine.

The objectives of the discipline - training to objectively analyze historical phenomena, achievements and prospects for the development of medicine and healthcare;

an indication of the general patterns of the world-historical process of formation and development of healing and medicine in various countries of the world from ancient times to our time;

revealing the achievements of outstanding civilizations and each epoch in the field of medicine in the context of the progressive development of mankind;

an indication of the interaction of national and international factors in the formation of medical science and practice in various regions of the globe;

instilling ethical principles of medical activity;

indication of the peculiarities of the development of medical ethics in various civilizations and countries of the world, philosophical foundations and historical conditions of their formation;

education of high moral qualities in students: love for their profession, loyalty to duty, feelings of humanism and patriotism;

expanding the general scientific and cultural horizons of students.

2. The place of practical training in the structure of the educational program of higher education

The discipline «История медицины / History of Medicine» относится к обязательной части учебного плана refers to the mandatory part in the curriculum of the educational program of higher education (hereinafter referred to as the EP of HE) in the field of training / specialty 31.05.03 Стоматология, direction (profile) / specialization of the program «Dentistry».

Previous academic disciplines (modules) and (or) practices that form the knowledge, skills and abilities necessary for training in the discipline (module):

Knowledge, skills and abilities formed as a result of training in a discipline (module) are necessary when teaching in the following disciplines (modules) and (or) practices:

3. Planned learning outcomes in the discipline (module), correlated with the planned learning outcomes

Planned learning outcomes in the discipline (module), correlated with the planned learning outcomes

Code and name of the competence	Code and name of the competence achievement	Descriptors for the indicator of competence achievement (learning)
УК-5 Способен	УК-5.1 Осознает	-patterns and features of socio-

<p>анализировать и учитывать разнообразие культур в процессе межкультурного взаимодействия / He/she is able to analyze and take into account the diversity of cultures in the process of intercultural interaction</p>	<p>межкультурное разнообразие общества в его различных контекстах: социально- историческом, этическом, философском / He/she recognizes the intercultural diversity of society in its various contexts: socio- historical, ethical, philosophical</p>	<p>historical development of various cultures; - to understand and tolerate the intercultural diversity of society; -skills and ways of understanding the intercultural diversity of society in its various contexts: socio-historical, ethical, philosophical;</p>
<p>УК-5 Способен анализировать и учитывать разнообразие культур в процессе межкультурного взаимодействия / He/she is able to analyze and take into account the diversity of cultures in the process of intercultural interaction</p>	<p>УК-5.2 Способен выбрать способ адекватного поведения в поликультурном сообществе и соблюдает общекультурные этические нормы, разрешает возможные противоречия и конфликты / He/she is able to choose a way of adequate behavior in a multicultural community and observes general cultural ethical standards, resolves possible contradictions and conflicts</p>	<p>- rules and technologies of effective intercultural interaction; - observe ethical and legal norms in the process of intercultural interaction; -skills and ways to choose a way of adequate behavior in a multicultural community and observes general cultural ethical norms, resolves possible contradictions and conflicts;</p>
<p>УК-5 Способен анализировать и учитывать разнообразие культур в процессе межкультурного взаимодействия / He/she is able to analyze and take into account the diversity of cultures in the process of intercultural interaction</p>	<p>УК-5.3 Способен к продуктивному общению с учетом разнообразия социальных групп в социально-историческом, этическом и философском контекстах, в том числе для решения профессиональных задач / He/she is capable of productive communication, taking into account the diversity of social groups in socio-historical, ethical and philosophical contexts, including that for solving professional problems</p>	<p>- mechanisms of intercultural interaction in society at the present stage; -analyze the features of social interaction taking into account historical, national, cultural and religious characteristics, including for solving professional tasks; -methods and skills of effective intercultural interaction;</p>

4. Structure, scope and content of the discipline (module)

Educational activities in the discipline (module) are carried out:

- in the form of students' face-to-face work with the teaching staff of the organization

and (or) persons involved by the organization to implement the educational programs on other terms (hereinafter - contact work);

- in the form of students' independent work.

Face-to-face work can be classroom-based, extramural, as well as it can be conducted in an electronic information and educational environment (EIEE).

Learning sessions in the discipline (module) and interim assessment of students are conducted in the form of face-to-face work and in the form of students' independent work.

During learning sessions in the discipline (module) face-to-face work includes: lecture-type classes, seminar-type classes and (or) group consultations, and (or) individual work of students with the teaching staff of the organization and (or) persons involved by the organization to implement the educational programs on other terms (including individual consultations).

Legend:

Lec – lectures, Lab – laboratory work, Pr – practical classes, ICW – individual face-to-face work, IW – independent work.

4.1. Content of the discipline (module)

Section name	The section's content	Formed competences	Competence achievement indicator
The origin of healing.	The history of medicine as a science and the subject of teaching.	YK-5	YK-5.1, YK-5.2, YK-5.3
	Medicine under the primitive communal system. Medicine in the countries of the Ancient East, Ancient Greece and Ancient Rome.		
	Renaissance medicine (V century – the middle of the XVII century). Medicine in the Era of Feudalism in Russia: healing in Kievan Rus (IX – XIV centuries) and the Moscow state (XV – XVII centuries).		
The scientific stage of the development of the history of medicine.	Medicine of the manufacturing stage of capitalism. Medicine in Russia in the era of feudalism (XVIII century).		
	Medicine in Russia during the disintegration of feudalism (the first half of the XIX century). Medicine of the period of monopolistic capitalism. Medicine in Russia in the second half of the XIX		

	century – the beginning of the XX century.		
The scientific stage of the development of the history of medicine.	The formation of domestic healthcare in the Soviet period. Development of theoretical and clinical disciplines.	УК-5	УК-5.1, УК-5.2, УК-5.3
	Healthcare of Chuvashia.		
	The history of the formation and development of the Faculty of Medicine at the Federal State Educational Institution "Chuvash State University".		
	Questions of medical ethics and deontology in teaching the history of medicine.		
	Visiting museums		
Individual contact work	Individual contact work (credit)		

4.2. Scope of the discipline and types of academic work

Forms of control and types of academic work		Labor intensity of the discipline (module)	
		2	total
1. Face-to-face work:		48,2	48,2
In-class learning in total, including:		48	48
Лекционные занятия (Лек)		16	16
Практические занятия (Пр)		32	32
Индивидуальная контактная работа (ИКР)		0,2	0,2
2. Independent work of the student:		23,8	23,8
3. Intermediate certification (exam) (зачет)		3а	3а
Total:	academic hours	72	72
	credit units	2	2

№ item	The section's (theme's) name	Face-to face work, including in the electronic information and educational environment, academic hours				IW, academic hours	Total, academic hours
		Lect.	Pr.	Lab.	ICW		
	The origin of healing.						
1	The history of medicine as a science and the subject of teaching.	2	2			2	6
2	Medicine under the primitive communal system. Medicine in the countries of the Ancient East, Ancient Greece and Ancient Rome.	2	4			2	8
3	Renaissance medicine (V century – the middle of the XVII century). Medicine in the Era of Feudalism in Russia: healing in Kievan Rus (IX – XIV centuries) and the Moscow state (XV – XVII centuries).	2	4			4	10
	The scientific stage of the development of the history of medicine.						
4	Medicine of the manufacturing stage of capitalism. Medicine in Russia in the era of feudalism (XVIII century).	2	2			4	8
5	Medicine in Russia during the disintegration of feudalism (the first half of the XIX century). Medicine of the period of monopolistic capitalism. Medicine in Russia in the second half of the XIX century – the beginning of the XX century.	2	4			1	7
6	The formation of domestic healthcare in the Soviet period. Development of theoretical and clinical disciplines.	2	4			2,2	8,2
7	Healthcare of Chuvashia.	2	2			2	6

8	The history of the formation and development of the Faculty of Medicine at the Federal State Educational Institution "Chuvash State University".	2	2			2	6
9	Questions of medical ethics and deontology in teaching the history of medicine.		4			4,6	8,6
10	Visiting museums		4				4
	Individual contact work						
11	Individual contact work (credit)				0,2		0,2
Total academic hours		16	32		0,2	23,8	72

4.3. Summary of the discipline (module), structured by sections (topics)

Раздел 1. The origin of healing.

Тема 1. The history of medicine as a science and the subject of teaching.

Лекционное занятие. The main goals and objectives of teaching the history of medicine. The role of the history of medicine in the system of doctor training. Sources of the study of the history of medicine. Medical emblems. Museums and departments of the history of medicine.

Практическое занятие. The subject and objectives of the history of medicine. Sources of the study of the history of medicine. Medical emblems. Museums and departments of the history of medicine. Distribution of abstracts topics. Methods of preparation of the abstract.

Тема 2. Medicine under the primitive communal system. Medicine in the countries of the Ancient East, Ancient Greece and Ancient Rome.

Лекционное занятие. Characteristic features of primitive society. Medical care in the primitive communal system. Healing in Ancient Egypt, Mesopotamia. Periodization of the healing of Ancient India. Healing in Ancient Greece and Ancient Rome.

Практическое занятие. Medicine in the countries of the Ancient East. Healing and the origin of cults and beliefs.

Healing in the countries of Ancient Greece and Ancient Rome. The activity of Hippocrates. Claudius Galen is a physician of ancient Rome.

Тема 3. Renaissance medicine (V century – the middle of the XVII century). Medicine in the Era of Feudalism in Russia: healing in Kievan Rus (IX – XIV centuries) and the Moscow state (XV – XVII centuries).

Лекционное занятие. The formation of Kievan Rus, the Moscow state. Characteristics of the Renaissance.

Methods and means for the treatment of patients in the Ancient Russian state.
Creation of the Pharmacy Order and its activities.
Problems of medicine of that time.
The first doctors of medicine.

Практическое занятие. The importance of folk medicine for the formation and development of medicine in Russia. A view on the essence of diseases and health in Kievan Rus and the Moscow state. The Russian bathhouse is one of the oldest hygienic establishments in Russia.

Ambroise Pare and the significance of his works for surgery. Paracelsus. Avicenna is a great encyclopedic scientist. Anthony Leeuwenhoek and his discoveries in microbiology.

Раздел 2. The scientific stage of the development of the history of medicine.

Тема 4. Medicine of the manufacturing stage of capitalism. Medicine in Russia in the era of feudalism (XVIII century).

Лекционное занятие. Development of medicine and training of medical personnel.
The role of M.V. Lomonosov in the development of medicine.
The leading centers of medical science of that time.
Prominent Russian figures of medicine and their works.

Практическое занятие. Socio-economic changes in Russia. Reforms in the management of medicine. Transformations of Peter I. The beginning of smallpox vaccination. Opening of hospital schools. Activity of M.V. Lomonosov. Contribution of S.G. Zybeline.

N.M. Maksimovich-Aibodik – the founder of obstetrics in Russia. Opening of the Moscow University, Academy of Sciences with St. Petersburg. Training of medical personnel in the XVIII century. The role of P.Z. Kondoidi in the system of teaching doctors. D.S. Samoilovich. A.M. Shumlyansky.

Тема 5. Medicine in Russia during the disintegration of feudalism (the first half of the XIX century). Medicine of the period of monopolistic capitalism. Medicine in Russia in the second half of the XIX century – the beginning of the XX century.

Лекционное занятие. Characteristics of the epoch.
The development of the medical business of this period.
Scientific and practical discoveries of outstanding physicians of that time.
Development of medical directions and medical education.
The main successes of domestic medicine.

Практическое занятие. Socio-economic changes in Russia. Opening of new universities. Participation of Russian doctors in the Patriotic War of 1812. Russian noble intelligentsia about health protection. Leading centers of medical science in Russia.

The discovery of anesthesia. Activities of P.A. Zagorsky, I.F. Bush, I.V. Buyalsky, M.Ya. Mudrov, N.I. Pirogov, S.F. Hotovitsky.

The successes of domestic medicine in the field of clinic, hygiene, pathology. The most important directions of the development of domestic medicine in the second half of the XIX century – the beginning of the XX century. Activities of outstanding Russian doctors and scientists: I.P. Pavlov, I.M. Sechenov, S.P. Botkin, F.F. Erisman, A.P. Dobroslavin, A.A. and A.K. Limberg, I.N.I. Sklifosovskiy, I.I. Mechnikov.

Тема 6. The formation of domestic healthcare in the Soviet period. Development of theoretical and clinical disciplines.

Лекционное занятие. 1. Characteristics of Soviet healthcare.

2. Leading institutions of Soviet medicine.
3. The development of domestic medicine since the 1990s
4. Significant and anniversary dates of the history of healthcare in Russia.
5. "The oath of the doctor of Russia".
6. The concept of health care and medical science development.

Практическое занятие. The natural science basis of domestic medicine. Achievements of Soviet science and practice. Principles of Soviet healthcare. The first decrees of the Soviet government. N.A. Semashko – organizer of the Soviet health care. Heroism and courage of doctors during the Great Patriotic War. Development of transplantology.

Тема 7. Healthcare of Chuvashia.

Лекционное занятие. The medical and sanitary state of affairs in pre-revolutionary Chuvashia.

Stages of health care development in Chuvashia.

Medicine in Chuvashia during the Great Patriotic War.

Medical personnel of Chuvashia.

The main achievements of Chuvash medicine.

Healthcare in modern Chuvashia.

Практическое занятие. The development of healthcare in Chuvashia in the pre-revolutionary period, in 1918-1940, during the Great Patriotic War, the post-war period. Healthcare in modern Chuvashia. Volkov K.V. – rural doctor, scientist, professor. Elimination of trachoma in Chuvashia.

Тема 8. The history of the formation and development of the Faculty of Medicine at the Federal State Educational Institution "Chuvash State University".

Лекционное занятие. Opening and foundation of the I.N. Ulyanov Chuvash State University.

The first faculties and departments within the university.

The opening of the Medical faculty and its structure.

The main stages of the university's development.

The history of the development of the medical Faculty of the University.

Types of directions and specialties in which students are currently being trained.

Практическое занятие. The history of the foundation of the I.N. Ulyanov ChSU. The composition of the University. Symbols of the Russian Federation, CSU, CR. Rectors of the University. Dean of the Faculty of Medicine. Formation and development of fundamental and clinical departments of the Faculty of Medicine.

Тема 9. Questions of medical ethics and deontology in teaching the history of medicine.

Практическое занятие. The concept of medical ethics and deontology. The history of the development of medical ethics. The main aspects of medical ethics. Medical errors. Professional crimes in the work of a doctor. Medical secrecy. Euthanasia: pros and cons. Palliative medicine. Hospices. F.P. Naaz is an example of the highest humanism.

Тема 10. Visiting museums

Практическое занятие. Visiting museums of the I.N. Ulyanov ChSU, museums of the city.

5. Educational technologies

To implement the competence-based approach in the study of the discipline (module), extensive use of active and interactive methods of conducting classes in the educational process is provided:

Lecture-visualization using computer technology. The lecture material is accompanied by slides demonstrated during the lecture.

A discussion is a public discussion or a free verbal exchange of knowledge, judgments, ideas or opinions about any controversial issue or problem. Its essential features are a combination of complementary dialogue and discussion- a dispute, a clash of different points of view, positions.

The execution of the abstract, presentation is carried out to instill the skill of a comprehensive, completed study of the topic under consideration, the formation of the ability to work with primary sources, analyze historical material, navigate the historical process of progressive development of healing and medicine, public speaking.

6. Forms of control and types of evaluation materials for the discipline (module)

Intermediate attestation - evaluation of intermediate and final results of training in the discipline (module).

6.1. Sample list of questions for the credit test

1. The influence of M.V. Lomonosov's works on the development of Russian medicine of the XVIII century.
2. The main features of the development of medicine in Russia of the XVIII century.
3. P.A. Zagorsky, I.F. Bush, I.V. Buyalsky – outstanding representatives of Russian medicine of the first half of the XIX century. Their contribution to dentistry.
4. S.G. Zybeline, K.I. Shchepin, D.S. Samoilovich, N.M. Maksimovich-Ambodik, A.M. Shumlyansky and others. Scientists and their role in the domestic medicine of the XVIII century.
5. N.I. Pirogov, his contribution to the development of anatomy, surgery and dentistry.
6. The use of anesthesia in Russia in the first half of the XIX century.
7. Public activity of N.I. Pirogov.
8. Contribution of N.I. Pirogov to military field surgery.
9. M.Ya. Mudrov, his contribution to the diagnosis, treatment and prevention of internal diseases. Statements of M.Y. Mudrov about the ethics of a doctor.
10. A.M. Filomafitskiy and the development of experimental physiology in Russia.
11. I.V. Buyalsky, his contribution to surgery and dentistry.
12. I.F. Bush and his contribution to surgery and dentistry.
13. P.A. Zagorsky and his anatomical school.
14. The influence of the philosophy of the revolutionary Democrats on medicine in Russia in the second half of the XIX century.
15. The development of ideas of nervism in the works of I.M. Sechenov, S.P. Botkin and other Russian scientists.
16. I.P. Pavlov, the most important achievements in the field of physiology, the discovery and study of conditioned reflex activity of the body.
17. The role of S.P. Botkin, G.A. Zakharin and A.A. Ostroumov in the development of therapy in Russia of the XIX century.
18. N.V. Sklifosovsky's contribution to surgery. Development of asepsis and antiseptics.
19. I.I. Mechnikov, A.A. Pashutin, A.I. Polunin, A.B. Focht and their role in the development of the doctrine of the disease, the contribution of scientists to the development of theoretical medicine.

20. F.F. Erisman, A.P. Dobroslavin, the development of domestic hygiene and its social character.
21. The development of zemstvo medicine in Russia, the district principle of medical care, the growth of the hospital network, the emergence of sanitary statistics, zemstvo doctors.
22. The development of zemstvo medicine in Russia, the precinct principle of medical examination, the growth of the hospital network, the emergence of sanitary statistics, zemstvo doctors.
23. The most important features of Russian medicine of the second half of the XIX century.
24. Formation of the People's Commissariat of Health – NKZ of the RSFSR, its role in the development of odontology.
25. N.A. Semashko. Z.P. Solovyov – organizers and theorists of Soviet healthcare.
26. Basic principles of Soviet healthcare.
27. P.G. Dauge his life and work, role in the development of odontology, dentistry and higher dental education.
28. Solving urgent problems in the field of medicine and healthcare in the first post-revolutionary years.
29. I.P. Pavlov is an outstanding physiologist, his contribution to science.
30. Representatives of Soviet anatomical schools.
31. Soviet surgeons and their contribution to medical science.
32. The Hippocratic Oath and the modern "Doctor's Oath".

6.2. Sample list of questions for the examination

Not provided

6.3. Suggested themes of term papers (projects)

Not provided

6.4. Suggested themes of term projects

Not provided

6.5. Suggested topics of calculation and graphic works

Not provided

7. Educational, methodological, informational and software support of the discipline (module)

The electronic catalog and electronic information resources provided by the scientific library of the FSBEI of HE "I. N. Ulianov Chuvash State University" are available at the link <http://library.chuvsu.ru/>

7.1. Regulatory documents, standards and rules

On the basics of public health protection in the Russian Federation: Federal Law No. 323-FZ of November 21, 2011:[Adopted by the State Duma on November 1, 2011:Approved by the Federation Council on November 9, 2011] : [editorial dated May 26, 2021]. – URL: <https://base.garant.ru/12191967/> (accessed: 05/28/2021). - Text: electronic.

7.2. Recommended basic educational and methodological literature

№ item	Name
1	

7.3. Recommended supplementary educational and methodological literature

№ item	Name
1	

7.4. List of resources of the "Internet" information and telecommunication network

№ item	Name	Link to the resource
1	A single window to educational resources [Electronic resource]. – Access mode: http://window.edu.ru (accessed: 08/19/2019)	http://window.edu.ru
2	Russian State Library [Electronic resource]. – Access mode: http://www.rsl.ru (accessed: 08/19/2019)	http://www.rsl.ru
3	The Russian National Library [Electronic resource]. – Access mode: http://www.nlr.ru (accessed: 08/19/2019)	http://www.nlr.ru
4	Scientific electronic library "Cyberleninka" [Electronic resource]. – Access mode: http://cyberleninka.ru (accessed: 08/19/2019)	http://cyberleninka.ru
5	Database of literature of the Scientific Medical Library of the USA http://www.ncbi.nlm.nih.gov/sites/entrez (accessed: 08/19/2019)	http://www.ncbi.nlm.nih.gov/sites/entrez

7.5. Software, professional databases, information and reference systems, electronic educational resources and electronic library systems

Software, professional databases, information and reference systems provided by the Informatization Department of the FSBEI of HE "I.N. Ulianov Chuvash State University" are available for download at the link <http://ui.chuvsu.ru> //. The Unified Register of Russian programs for electronic computers and databases, including freely distributed ones, is available at the link reestr.minsvyaz.ru/reestr /.

7.5.1. Licensed and freely distributed software

Microsoft Windows operating System and/or Unix-like operating system and/or mobile operating system;

Office software packages:

Microsoft Office and/or LibreOffice

and (or) OpenOffice and (or) analogues;

Browsers, including Yandex.Browser.

List of software:

7.5.2. Lists of professional databases and (or) information reference systems and (or) electronic library systems and (or) electronic educational resources

8. Material and technical support of the discipline

Classrooms for lecture-type classes in the discipline are equipped with a teacher's automated workplace consisting of: a personal computer/laptop, multimedia equipment with a screen and (or) SMART interactive whiteboard/SMART TV.

The premises for students' independent work are equipped with computer equipment enabling to connect to the Internet and provide access to the electronic information and educational environment of the FSBEI of HE "I.N. Ulianov Chuvash State University".

№ item	Lesson type	Brief description and characteristics of the composition of installations, measuring and diagnostic equipment, computer equipment and experimental automation tools
1		

9. Means of adapting the discipline teaching to the needs of persons with physical conditions

If necessary, persons with physical conditions can be offered one of the following options for perceiving information, taking into account their individual psychophysical characteristics:

1) using e-learning and distance learning technologies.

2) using special equipment (enginery) and software in accordance with the students' health restrictions in the Training Centers for Persons with Disabilities and Physical Conditions (hereinafter referred to as special needs) available at the university.

In the course of training, if necessary, the following conditions are provided for persons with visual, hearing and musculoskeletal disorders:

- for persons with visual impairments: educational and methodological materials in printed form in enlarged font; in the form of an electronic document; in the form of an audio file (conversion of educational materials into audio format); in printed form in Braille; individual consultations involving a tactile interpreter; individual assignments and consultations.

- for people with hearing impairments: educational and methodological materials in printed form; in the form of an electronic document; video materials with subtitles; individual consultations involving a sign language interpreter; individual assignments and consultations.

- for persons with disorders of the musculoskeletal system: educational and methodological materials in printed form; in the form of an electronic document; in the form of an audio file; individual assignments and consultations.

10. Guidelines for students to perform independent work

The purpose of the student's independent work (IW) is to consolidate the theoretical knowledge gained and to acquire practical skills in using and performing research of algorithms and data structures when designing application software programs. IW includes independent study of educational issues, preparation for laboratory classes, performing calculation and graphic work, preparation for a test and an exam.

The list of questions and tasks for independent work to prepare for laboratory classes is given in the corresponding methodological instructive regulations in the description of each laboratory work.

The list of questions and tasks for independent work to carry out calculation and graphic work is given in the relevant methodological instructive regulations.

Independent work of students, along with classroom work, is one of the forms of the educational process, is mandatory for every student and is determined by the curriculum.

The purpose of independent work is to deepen and expand knowledge in the sections of the discipline under study, to form the ability to systematize, generalize, and analyze theoretical knowledge.

Types of independent work:

- preparation of students for practical classes,
- self-referencing of educational and scientific literature on the proposed topic and presentation of the work performed (as part of a training session or control of students' independent work).

Independent work of students forms the skills and abilities to search for information necessary for solving professional tasks, promotes the development of independent thinking, creative approach to the ongoing educational and research activities.

Forms of independent work of students provided by the discipline:

- Preparation for practical classes;
- Independent study of educational issues;
- Execution of the abstract and presentation;
- Preparation for the exam.

For independent preparation for practical classes, study of educational issues, preparation for the exam, the following sources can be recommended:

- lecture notes and materials of practical classes;
- educational literature of the relevant profile.

At the beginning of the course, the teacher informs students about the forms, types and content of independent work, explains the requirements for the results of independent work, as well as forms and methods of control and evaluation criteria.

11. Methodological instructive regulations for students studying the discipline (module)

Topics submitted for independent study should be outlined. The summary summarizes the main essence of the educational material, provides the necessary justifications, tabular data, diagrams, sketches, calculations, etc. It is advisable to make a summary entirely on the topic. At the same time, it is always possible to supplement the compiled summary with clippings and extracts from magazines, newspapers, articles, new textbooks, brochures on the exchange of experience, data from the Internet and other sources. Thus, the summary becomes a collection of necessary materials, where the student introduces everything new that he has studied, learned. Such notes are of great value when preparing for classes.

The main stages of self-study of educational issues:

1. Initial acquaintance with the material of the topic under study according to the text of the textbook, maps, additional literature.
2. Highlighting the main thing in the studied material, compiling the usual short notes.
3. Selection of reference signals for this text in the form of individual words, certain signs, graphs, drawings.
4. Thinking over a schematic way of coding knowledge, using a different font, etc.
5. Drawing up a reference summary

11.1. Methodological instructive regulations for preparing for seminar-type classes

Practical training is one of the forms of educational work, which is focused on consolidating the studied theoretical material, its deeper assimilation and the formation of the ability to apply theoretical knowledge for practical, applied purposes. Special attention in

practical classes is paid to the development of educational or professional skills. Such skills are formed in the process of studying educational material under the guidance and supervision of a teacher. To prepare for the practical lesson, the student needs to study the theoretical material on this topic, memorize the basic concepts, analyze the data in the lectures. In order to consolidate the material passed, the student needs to do homework in accordance with the task received at the previous practical lesson. In case of difficulties in its implementation, it is recommended to seek the help of a teacher in the time allotted for consultations.

Stages of preparation for the practical lesson:

- study of the theoretical material obtained at the lecture and in the process of independent work;
- completing homework;
- self-check on the control issues of the topic.

11.2. Methodological instructive regulations for preparing for an examination

Not provided

11.3. Methodological instructive regulations for preparing for a test

Preparation of students for passing the test includes:

- viewing the program of the training course;
- identification of sources necessary for the preparation (textbooks, additional literature, etc.) and their study;
- use of lecture notes, materials of practical classes;
- consulting with a teacher.

Preparation for the test begins with the first lesson in the discipline, where students receive a general teacher's attitude and a list of basic requirements for current and final reporting. At the same time, it is important to systematically master the material from the very beginning, guided, first of all, by the list of questions for the test (exam), to take notes of sources important for solving educational tasks. During the semester, the replenishment, systematization and adjustment of student developments, the development of new and consolidation of already studied material take place.

11.4. Methodological instructive regulations for performing computational and graphical

Not provided

11.5. Methodological instructive regulations for performing a control work

Not provided

11.6. Methodological instructive regulations for performing a course work (project)

Not provided

List of additions and changes

The name and details (if any) of the document attached to the Working Program of the discipline (module) containing the text of updates	Department's decision		Full name of department head:
	Date	Protocol №	