PROF. DR. ASSEN ZLATAROV UNIVERSITY - BURGAS

MEDICAL FACULTY

DEPARTMENT OF PHYSIOLOGY, PATHOPHYSIOLOGY, CHEMISTRY AND BIOCHEMISTRY

Approved by

DEAN:

/Assoc. Prof. Rumyana Yankova, PhD/

SYLLABUS

Discipline:	**ASSESSMENT OF THE CHEMICAL FACTORS IN THE ENVIRONMENTAL AND WORKING ENVIRONMENT**
Specialty:	**MEDICINE**
Professional field:	**7.1. Medicine**
Educational and qualification degree:	**MASTER**
Form of training:	**REGULAR**

Burgas, 2024

EXTRACTS FROM THE CURRICULUM

1. GENERAL PARAMETERS OF THE DISCIPLINE			
Total (academic hours):	90	**ECTS:**	3

Auditorium classes	**Non-auditorium classes**	**Auditorium ECTS**	**Non-auditorium ECTS**
45	45	1.5	1.5

Type of Discipline:	**Academic hours per week: /lectures + practices/**	*Course:*	*Semester:*
Elective	1 +2	**I**	**II**

2. STUDY FORMS					
Auditorium classes:	**Academic hours**	**ECTS**	**Non-auditorium classes:**	**Academic hours**	**ECTS**
Lectures	15	0.75	**Consultation**	10	0.5
Practices	30	0.75	**Individual work** - Preparation of protocols	20	0.5
			- Preparing a presentation	15	0.5

3.EVALUATION AND CONTROL	
Forms of evaluation and control	**Relative share in the total score**
Sessional evaluation: exam	**0.4**
Semester (ongoing) assessment:	**0.6**
Forms of semester control:	
- Attendance at classes	0.25
- Ongoing testing before each practical lesson	0.25
- Active participation in classes	0.25
- Presentation on a scientific problem	0.25

ANNOTATION
of the discipline "Assessment of the Chemical Factors in the Environmental and Working Evironment"

Purpose of the course:
The course "**Assessment of the Chemical Factors in the Environmental and Working Environment**" is pre-designed for the students of the specialty "Medicine", full-time form of study.

The aim of the course: The disturbance of the balance established in nature as a result of chemical pollution seriously threatens the health and life of the population (1/3 of the hospital beds in the world at any given time are occupied by people suffering from diseases related to poor quality drinking water and contact with poorly treated wastewater, soil, air). The European norms in the protection of public health, which the Republic of Bulgaria introduces according to the standards of the European Union, require from the workers in the relevant bodies high competence and professionalism, which this course aims to introduce to the students of Medicine.

Main tasks of the curriculum:
The training covers the basic theoretical concepts of analytical determinations and methods for qualitative, quantitative and instrumental analysis of chemical pollutants and evaluation of the results obtained. Students are introduced to conventional and some alternative technologies for the treatment of wastewater and human excreta. Problems of ecological balance are addressed in a discussion form by following global trends. Laboratory measurements of specific factors affecting ecological balance in the environment and workplace are also included. Introduction to alternative wastewater and human waste management systems.

Structure of learning content:

- Environmental education and education for sustainable development.
- Natural environment. Ecological balance.
- Water, soil, air as elements of the natural environment.
- Environmental pollution.
- Methods of chemical analysis of the environment and workplace.
- Assessment of harmful chemical factors and ways of their utilization.

Teaching methods: traditional and innovative teaching methods, lectures, discussion, experiments, multimedia presentations, projects, teamwork, etc.

Forms of independent work: coursework of a referential type, problems for independent solving on topics from practical classes, solving tests, preparation of protocols for laboratory exercises, colloquia.

Methods of evaluation: current control during the classes, lectures, final control – test exam and presentation.

Prerequisites for students' basic knowledge and skills:
Have a good fundamental background in the Natural Sciences from the secondary course and the Chemistry course, studied during the first semester of study in the major.

Expected results:

Upon successful completion of the course, students must:

– Form environmental knowledge and competencies for proper assessment of chemical factors in the environment and workplace.

– To have the skills necessary to find solutions to specific problems, to perform basic operations and procedures for impact on objects under study, to work with laboratory equipment and apparatus, to observe health and safety conditions.

– To have acquired competences for scientific explanation of ecological facts and phenomena, for application of experimental results, competences for observation, modelling, analysis, development of logical and creative thinking, development of independence, teamwork, self-control.

CURRICULUM CONTENT

LECTURES

Topic	Hours
1. Main aims, objectives and principles of environmental education and education for sustainable development. Approaches, methods, forms and means of environmental education	1
2. Environmental education - health education. Formation of environmental competences through chemical knowledge	1
3. Natural environment. Main components - lithosphere, biosphere, hydrosphere, atmosphere. Natural phenomena. Natural equilibrium. Ecological balance	1
4. Water as an element of the natural environment. Water structure, physical, chemical and biological indicators. Requirements for the composition of water when used for different purposes. Water treatment	2
5. Pollution of natural and industrial waters. Protection of water from pollution. Treatment of sewage and polluted water. independence, teamwork, self-control	2
6. Atmosphere. Air as an element of the natural environment. Air pollution. Aero therapy	2
7. Lithosphere. Soils as an element of the natural environment. Soil pollution. Poloid therapy	2
8. Methods of chemical analysis of the environment and working environment - water, food, soil, air, etc. Assessment of harmful chemical factors and ways of their utilization	2
9. Environmental pollution - causes, consequences and trends - sustainable development. Conventional and alternative technologies for wastewater and human waste treatment	2
Total:	**15**

SEMINARS AND EXERCISES

Topic	Hours
1. Pollution, conservation, environmental sustainability. Harmful and hazardous substances - discussion and demonstrations (seminar)	3
2. Qualitative analysis of polluted waters. Analytical methods for the determination of cations and anions (exercise)	3
3. Volumetric analytical methods for determination of physical and physicochemical properties of water - pH, hardness, acidity (exercise)	3
4. Determination of nitrate and nitrite in water and food products (exercise)	3
5. Introduction to environmental sanitation systems for public and household use; introduction to alternative wastewater and human waste management systems. Introduction to health risk and the barriers posed to overcome it (seminar)	3
6. Pollution of the Burgas region with oil and oil products - factors, pollutants, control, impact on the environment and people (seminar)	3
7. Determination of total soil moisture and bulk density (exercise)	3
8. Determination of the active pH reaction of a soil extract (exercise)	3
9. Getting to know the methods of control and prevention of environmental pollutants. Controlled conduct of volumetric analytical determinations (seminar)	3
10. Methods of environmental education: learning through discovery; cooperative learning; independent study; group work, teamwork; debate; discussion; brain attack; situation, case, incident; interactive games; presenting; project-based learning; training with curricula; training with methodological developments of classes, essays; survey (seminar)	3
Total:	**30**

BACKGROUND

for Assessment of the Chemical Factors in the Environmental and Working Environment exam for students of the specialty "Medicine"

1. Main aims, objectives and principles of environmental education and education for sustainable development
2. Environmental education - health education. Formation of ecological competencies through chemical knowledge
3. Natural environment. Main components - lithosphere, biosphere, hydrosphere, atmosphere. Natural equilibrium. Ecological equilibrium
4. Water as an element of the natural environment. Water structure, physical, chemical and biological indicators. Requirements for the composition of water when used for different purposes. Water treatment
5. Pollution of natural and industrial waters. Protection of water from pollution
6. Atmosphere. Air as an element of the natural environment. Air pollution. Aero-therapy
7. Lithosphere. Soils as an element of the natural environment. Soil pollution. Pe-loidotherapy

8. Methods of chemical analysis of the environment and working environment - water, food, soil, air, etc. Assessment of harmful chemical factors and ways of their utilization
9. Environmental pollution - causes, consequences and trends - sustainable development. Conventional and alternative technologies for wastewater and human waste treatment

BIBLIOGRAPHY

1. Peter O'Neill, Environmental Chemistry, 1998, Tomson Science, Germany, ISBN 9780751404838.
2. Connell, D.W., 2005. Basic concepts of environmental chemistry. CRC Press, ISBN 9781566706766.
3. Csuros, Maria. Environmental sampling and analysis for technicians. CRC press, 2018, ISBN 9780873718356.

Students can use any other textbook in Assessment of the chemical factors in the environmental and working environment covering above topics.

Compiled by:

(Assoc. Prof. Rumyana Yankova, PhD)

Approved by a decision of the Council of the Department of Physiology, Pathophysiology, Chemistry and Biochemistry, Protocol №1/13.02.2024.

Head of the Department .....

(Assoc. Prof. Yordan Georgiev, PhD)

Approved by a decision of the Faculty Council of the Medical Faculty, Protocol №...3../..15.02.2024г.

Secretary of the Council of the Medical Faculty: ..

(Chief assist. Prof. Ruska Nenkova, PhD)

UNIVERSITY "PROF. DR. ASSEN ZLATAROV" - BURGAS

MEDICAL FACULTY

DEPARTMENT OF NEUROLOGICAL DISEASES, PSYCHIATRY AND PSYCHOLOGY

APPROVED BY THE DEAN

.....

/Assoc. Prof. R. Yankova, PhD/

DISCIPLINE

Subject: **VERBAL AND NONVERBAL DOCTOR-PATIENT COMMUNICATION**

Speciality: **7.1. MEDICINE**

Field of higher education: **7. HEALTH CARE AND SPORTS**

Education and qualification degree: **MASTER**

Form of education: **REGULAR**

Burgas
2024

EXTRACTS FROM THE CURRICULUM

1. GENERAL PARAMETERS OF DISCIPLINE			
General educational employment (hours):	90	**Credits:**	3
Auditorial	**Extracurricula**	**Auditorial**	**Extracurricula**
45	45	1,50	1,50
Type of subject:	**Number of hours per week: /lectures + seminars+practicals/**	**Course:**	**Semester:**
Задължителна	1+1+1	I	II

2. EDUCATIONAL FORMS					
Auditorial:	**Hours**	**Credits**	**Extracurricula:**	**Hours**	**Credits**
Lectures	15	0,50	Consultations (work with a teacher)	10	0,33
Seminars	15	0,50	Self-study - Referencing a scientific text - Course project	25 10	0,83 0,34
Practices	15	0,50			

3.ASSESSMENT AND CONTROL	
Assessment and control forms	**Relative proportion in the total assessment**
Sessional Assessment: Exam	**0.4**
Current assessment:	**0.6**
Forms of semester control:	
- Attendance and active participation in classes	0,2
- Preparation of an abstract of a scientific text	0,4
- Course project	0,4

ANNOTATION

The academic discipline "Verbal and nonverbal doctor-patient communication" is an elective subject from second list and is intended for the students of the specialty "Medicine", first year, EQD "Master", full-time form of education.

Aims

The main goal of the course is to form basic knowledge and skills in the field of verbal and non-verbal communication in medical practice. The aim of the education is to help the students to master communication skills, such as verbal and nonverbal techniques, active listening, managing conflict, public speaking. The knowledge corresponding to the studied discipline can be used in medical practice by completing the following educational tasks:

- Effective communication management;
- Understanding nonverbal behavior in clinical interactions;
- Building a comprehensive verbal and nonverbal behavior adequate to the situation, the patient or the audience by mastering various communication techniques that enhance the discussion culture

Structure of the learning content

The discipline has a pronounced scientific and applied orientation. The content of the course is related to three main directions: theoretical aspects of communication with a focus on verbal communication in medical practice; nonverbal communication - modalities and barriers in communication in doctor - patient interaction; creating a good emotional climate.

Practicals are in the field of applied clinical communication. Psychological and sociolinguistic factors specific to verbal clinical communication are presented, which influence the effectiveness of communication in diagnosis, treatment and propaedeutics. Specific nonverbal factors are studied to improve verbal communication in the clinics. The focus of training is also on listening, speaking and perception skills as the main factors for effective communication.

Teaching methods

In the learning process, a central place is given to lectures and practical classes as the main organizational forms, in which a variety of learning methods are offered (presentations, discussions and debates, case work).

Significant attention is also given to working in small groups, case studies and role-plays, project work and research tasks are offered within the practicals.

Forms of self-study

Working with information sources (specialized literature, electronic resources, Internet sources), referencing scientific text, development of a course project.

Assessment methods

The course finishes with a written exam (test). The evaluation is formed by three components: current evaluation of the work in the classes, referencing of the text and presentation of the course project; assessment from a written exam (test).

Prerequisites for students' basic knowledge and skills

The discipline is elective and there are no requirements for the students' prior preparation.

Expected results

The expected learning outcomes are aimed at students acquiring basic knowledge and skills in the field of verbal and nonverbal communication.

- To be able to solve communication problems in clinical settings;
- To be able to prepare and participate in various verbal presentations - presentation of course projects;
- To increase the level of decoding skills of nonverbal behavior, as well as to increase own nonverbal competence.

CONTENT OF THE CURRICULUM

A. Lectures

Topic:	Hours:
1. Main characteristics of communication. Meaning and characteristics of communication. Components of the communication process.	2 h
2. Types of communication. Interpersonal communication. Nonverbal communication. Written communication. Oral communication.	2 h
3. Views of communication. The interaction model of communication. Information transfer. Interactional context of communication.	2 h
4. Perception in communication. Interpersonal perception. Causal attribution. Categorization and stereotyping. Prejudices.	2 h
5. Basic communication skills. Social competence. Cultural competence Active listening and effective feedback.	2 h
6. Nonverbal communication and body language. Types and functions.	1 h
7. Effective communication in conflict resolution. Conflict management styles.	1 h
8. Doctor-patient communication. Barriers to effective communication with the patient. First impression. Building a trusting relationship with a patient.	2 h
9. Telemedicine and doctor–patient communication.	1 h
Total: 15 hours	

B. SEMINARS	
Topic:	**Hours:**
1. Personal communication skills - sharing and analysis.	2 h
2. Basic communication skills. Social competence.	2 h
3. The process of communication and interaction between doctor and patient.	2 h
4. Nonverbal vocal expressions. Kinesic communication.	2 h
5. Proxemics and communication. Types of personal space. Professional and personal boundaries.	2 h
6. Emotional competence in good medical practice. Definitions of emotions. Emotional competence abilities.	2 h
7. Conflict management.	3 h
Total: 15 hours	
C. PRACTICALS:	
Topic:	**Hours:**
1. A study of nonverbal communication knowledge.	4 h
2. Exercises to develop presentation skills.	4 h
3. Exercises to develop emotional competence.	4 h
4. Exercises to develop active listening and giving feedback.	3 h
Total: 15 hours	

COURSE PROJECT

A list of individual assignments related to the lectures is offered, which are prepared and presented within the semester.

LITERATURE FOR SELF-STUDY

Mandatory

1. Pease, B. & A. Pease. (2006). The definitive book of body language: The hidden meaning behind people's gestures and expressions. Bantam.
2. Lloyd, M. et all. (2018). Clinical communication skills for medicine. Elsevier.
3. Balint, J. (2000). The doctor, his patient and the illness. Second ed. Churchill Livingstone

Recommended

1. Dott, C., Mamarelis, ., Karam, E., et al. (March 13, 2022). Emotional Intelligence and Good Medical Practice: Is There a Relationship?. Cureus 14(3):e23126. DOI 10.7759/cureus.23126
2. Johnson, DR. (Dec. 6, 2015). Emotional intelligence as a crucial component to medical education. Int J Med Educ., 6:179-83. doi: 10.5116/ijme.5654.3044. PMID: 26638080; PMCID: PMC4691185.

Authors: ...
(Prof. Dr. G. Panov, MD, PhD, DSs)

..
(Assoc. Prof. B. Tsonkova, PhD)

The curriculum was discussed and adopted at a meeting of the Department of "Nervous Diseases, Psychiatry and Psychology", protocol No.7 of 22.03.2024.

Head of Department: ....
(Prof. Dr. G. Panov, MD, PhD, DSs)

The curriculum was adopted and discussed at the Faculty Council of the Faculty of Medicine, protocol No. 5 from 27.03.24

Scientific Secretary of the Faculty of Medicine: ..
(Chief Assist. Prof. R. Nenkova, PhD)

UNIVERSITY "PROF. DR. ASSEN ZLATAROV" - BURGAS

MEDICAL FACULTY

DEPARTMENT OF NEUROLOGICAL DISEASES, PSYCHIATRY AND PSYCHOLOGY

APPROVED BY THE DEAN

.....

/Assoc. Prof. R. Yankova, PhD/

DISCIPLINE

Subject: **STRESS AND MENTAL HEALTH**

Speciality: **7.1. MEDICINE**

Field of higher education: **7. HEALTH CARE AND SPORTS**

Education and qualification degree: **MASTER**

Form of education: **REGULAR**

Burgas
2024

EXTRACTS FROM THE CURRICULUM

1. GENERAL PARAMETERS OF THE DISCIPLINE			
General educational employment (hours):	90	**Credits:**	3

Auditorium employment	**Extracurricular employment**	**Auditorium employment**	**Extracurricular employment**
45	45	1.5	1.5

Kind of the discipline	**Number of hours per week: /lectures + exercises/**	**Course:**	**Semester:**
Selectable	1 + 2	**I**	**II**

2. EDUCATIONAL FORMS					
Auditorium employment	**Hours**	**Credits:**	**Extracurricular employment**	**Hours**	**Credits:**
Lectures	15	0.75	**Consultations** (work with a teacher)	10	0.50
Practical classes	30	0.75	**Independent work** - Preparation of an abstract	5 30	0.25 0.75

3. EVALUATION AND CONTROL	
Assessment and control forms	**Relative share in the total assessment**
Sessional Assessment: Exam	**0.4**
Semester (current) assessment:	**0.6**
Forms of semester control:	
- Attendance at classes	0.25
- Current sustenance before each exercise	0.25
- Active participation in classes	0.25
- Protocol protection	0.25

ANNOTATION
of the discipline
"Stress and Mental Health"

Purpose of the course:
This course is addressed to students of medicine and other medical specialties, with an orientation to deal with the stressors that arise during separation from the family environment, training, realization and others. The main emphasis falls on strategies to cope with stress, not only during students' studies, but also to maintain mental health in general.

Course Objective:
The curriculum in "Stress and Mental Health" consists of two relatively independent, but at the same time related disciplines. They are successively presented to the students. The aim of teaching the discipline is to prepare students to use an easy, organized tool that provides access to proven methods and tools for dealing with stress in the everyday life of the modern person.

Main tasks of the curriculum:
The training covers the main topics related to stress such as paradigm, its essence, typology, psychophysiology, manifestations and consequences. Stress at the workplace is among the most serious challenges for maintaining the health and well-being of workers. Students are extensively introduced to the concept of "stress", as well as what the consequences would be for a person's mental health, if timely measures are not taken to deal with it. In the current course, special attention is also paid to stress and traumatic life experiences, as factors related to oncological diseases. In the form of a discussion and different types of questionnaires, the state of distress is assessed.

Structure of learning content:
- Stress: essence, theories, manifestations and consequences.
- Burnout syndrome: essence, factors for the occurrence and development of consequences.
- Psychosocial distress in cancer patients. - methods for diagnosis of distress.
- Recommendations for dealing with distress in everyday life and in the workplace.

Teaching methods: traditional and innovative methods of teaching, lecture, talk, discussion, multimedia presentation, teamwork and more.

Forms of independent work: term paper of reference type, tasks for self -solving on topics from practical classes, solving tests, colloquiums.

Methods of evaluation: ongoing control in conducting classes, conversation, final control - test exam and abstract protection.

Preliminary requirements for the basic knowledge and skills of students: Students should have good basic knowledge of psychology and philosophy from the high school course.

Expected results:
After successful completion of the course in the discipline, students must: - to form psychological knowledge and competences to properly assess the stress and ways of dealing with it. - have the skills needed to find solutions to specific problems, to perform basic operations and procedures for impact on mental health. - have mastered competencies for scientific explanation of the influence of stress factors, for the application of various techniques

for coping and mastering stress, competences for monitoring, modeling, analysis, development of logical and creative thinking, development of independence, teamwork, self -control

CONTENT OF THE CURRICULUM PROGRAM
Lectures

Topic	hours
1. Etymology and definitions of the term "stress". Typology of stress. Psychophysiology of stress. Stress theories. Theory of general adaptation syndrome. Energy theory for adaptation. Stress theory as a cognitive process.	3
2. Difference in symptoms of distress, anxiety and depression. Stress and personality. Type A theory and Type B behavior. Behavioral model "personality resistance". Stress as a diagnosis. Acute stress reaction. Post -traumatic stress disorder. Adaptation disorders. Stress and social factors.	3
3. Etymology and definitions of the concept of "Burnout". Burnout syndrome as a diagnosis. Psychophysiology of Burnout Syndrome. Symptoms of overheating.	3
4. Factors for the onset of Burnout Syndrome. Risk groups. Burnout syndrome as a dynamic process. Burnout syndrome as a progressive disappointment. An algorithm for prevention and dealing with Burnout Syndrome.	3
5. Psychosocial distress in cancer patients. Diagnosis of distress in patients with cancer. Suicidal ideas and suicidal risk.	3
Generally:	**15 ч.**

Seminars and exercises

Topic	hours
1. Psychosocial risks and stress at work. Symptoms of stress. Self -assessment test. Test at your level of stress. (seminar-exercise)	2
2. Ways to deal with stress. Stress techniques. Giving up the topics for abstracts. (seminar)	2
3. How to recognize and deal with Burnout Syndrome. Dealing with the problem. (seminar)	2
4. Psychological test to check the level of the Burnout. Recovery after diagnosis "Burnout". (exercise)	2

5. Colloquium of etymology and definitions of the term "stress". Typology of stress. Psychophysiology of stress. Stress theories. Theory of general adaptation syndrome. Energy theory for adaptation. Stress theory as a cognitive process. Etymology and definitions of the concept of "Burnout". Burnout syndrome as a diagnosis. Psychophysiology of Burnout Syndrome.	2
6. Methods for diagnosis of distress. Social adaptation scale Life Change, Index Scale, PSI-4- Parental Stress Index. The Hoard Glaser questionnaire "Stress Control Type A and Type B". (Discussion - Exercise)	2
7. Resistance Test: Behavioral Model. Personality Resistance Hardy Personality. Distress thermometer. (exercise)	2
8. Stress Symptom Checklist. Biofeedback method (seminar-exercise)	2
9. Recommendations for dealing with distress in everyday life and at work. A twide -and -one steps toward a healthy lifestyle. Algorithm for changing type A behavior. (prejudice)	2
10. Strategies and techniques for the prevention and management of distress. (exercise)	2
11. Influence of the diagnosis of "cancer" on the mental health of the person. (seminar-discussion)	2
12.Suicidal ideas and suicidal risk in cancer patients. (seminar-discussion)	2
13. Care for patients with advanced cancer. (seminar-discussion)	2
14. Solving medical cases. (Discussion)	2
15. Presentation and protection of abstracts	2
Общо:	30 часа

Synopsis

For the Stress and Mental Health exam for students in the specialty "Medicine"

1. Etymology and definitions of the term "stress". Typology of stress. Psychophysiology of stress.

2. Stress theories. Theory of general adaptation syndrome. Energy theory for adaptation. Stress theory as a cognitive process.

3. Difference in symptoms of distress, anxiety and depression. Stress and personality. Type A theory and Type B behavior. Behavioral model "personality resistance".

4 Stress as a diagnosis. Acute stress reaction. Post -traumatic stress disorder. Adaptation disorders. Stress and social factors.

5. Etymology and definitions of the concept of "Burnout". Burnout syndrome as a diagnosis. Psychophysiology of Burnout Syndrome. Symptoms of overheating.

6. Factors for the onset of Burnout Syndrome. Risk groups. Burnout syndrome as a dynamic process.

7. How to recognize and deal with Burnout Syndrome. Dealing with the problem. Recovery after diagnosis "Burnout".

8. Burnout syndrome as a progressive disappointment. An algorithm for prevention and dealing with Burnout Syndrome.

9. Psychosocial distress in cancer patients. Diagnosis of distress in patients with cancer.

10. suicidal ideas and suicidal risk.

Preparation literature

1.Anakiev, Yu., Textbook for students ed. Plovdiv, Paisii Hilindarski, 2021.

2.Dreeva, L. Psychology of Knowledge, Lik.

3. Promoting mental health at work. Guide to apply a complex approach. EU Publication Service, 2017.

4. Daskalova, F.SOS- Stress, Bonn, 2014.

5. Milev, V., Milev R. Mental Health, Current Problems, Balkan Press., 1994.

6. Online Mental Health magazine, Main IC.

Compiled the curriculum:

(Prof. Dr. G. Panov MD PhD DSc)

The curriculum was discussed and adopted at a meeting of the Department of "Nervous Diseases, Psychiatry and Psychology", protocol No.7 of 22.03.2024.

Head of Department: .

(Prof. Dr. G. Panov, MD, PhD, DSs)

The curriculum was adopted and discussed at the Faculty Council of the Faculty of Medicine, protocol No. 5 from 27.03.2024 г.

Scientific Secretary of the Faculty of Medicine: ...

(Chief Assist. Prof. R. Nenkova, PhD)

PROF. DR. ASSEN ZLATAROV UNIVERSITY - BURGAS

MEDICAL FACULTY

DEPARTMENT OF PHYSIOLOGY, PATHOPHYSIOLOGY, CHEMISTRY AND BIOCHEMISTRY

Approved by

DEAN:

/Assoc. Prof. Rumyana Yankova, PhD/

SYLLABUS

Discipline:	**RESEARCH METHODOLOGY**
Specialty:	**MEDICINE**
Professional field:	**7.1. Medicine**
Educational and qualification degree:	**MASTER**
Form of training:	**REGULAR**

Burgas, 2024

EXTRACTS FROM THE CURRICULUM

1. GENERAL PARAMETERS OF THE DISCIPLINE			
Total (academic hours):	90	**ECTS:**	3
Auditorium classes	**Non-auditorium classes**	**Auditorium ECTS**	**Non-auditorium ECTS**
45	45	1.5	1.5
Type of Discipline:	**Academic hours per week: /lectures + practices/**	*Course:*	*Semester:*
Elective	1 +2	**II**	**III**

2. STUDY FORMS					
Auditorium classes:	**Academic hours**	**ECTS**	**Non-auditorium classes:**	**Academic hours**	**ECTS**
Lectures	15	0.75	**Consultation**	10	0.5
Practices	30	0.75	**Individual work** - Preparation of a communication on a scientific problem - Preparing a presentation .	20 15	0.5 0.5

3.EVALUATION AND CONTROL	
Forms of evaluation and control	**Relative share in the total score**
Sessional evaluation: exam	**0.4**
Semester (ongoing) assessment:	**0.6**
Forms of semester control:	
- Attendance at classes	0.25
- Ongoing testing before each practical lesson	0.25
- Active participation in classes	0.25
- Presentation on a scientific problem	0.25

ANNOTATION
of the discipline "Research Methodology"

Purpose of the course:
The course "Research Methodology" is pre-designed for the students of the specialty "Medicine", full-time form of study.

The aim of the Research Methodology course is to provide students with an understanding of how to participate in research projects, to encourage innovative thinking, and to acquire the skills to translate ideas into a well-structured and defensible research project.

Main tasks of the curriculum:
To be laid the foundations of the discipline "Research methodology", as follows: development of the methodology of scientific research and its non-information provision, the design and presentation of the research, development and funding of research projects as an opportunity to participate in student research sessions. The curriculum includes the problems of protection of scientific results as objects of intellectual property.
Preparation of a literature review, structuring of a scientific publication, report.

Structure of learning content:
- Research methodology
- Research technology

Teaching methods: traditional and innovative teaching methods, explanations, lectures, discussions, multimedia presentations, projects, teamwork, etc.

Forms of independent work: coursework, problems to be solved independently on seminar topics, solving tests, preparing presentations, abstracts/scientific reports, preparing scientific publications and projects.

Methods of evaluation: examination, lecture, final control - presentation of results of scientific research.

Prerequisites for students' basic knowledge and skills:
Students should have a good basic knowledge of Computer Science from high school.

Expected results:
Upon successful completion of the course, students must:
- Know the basic requirements of the normative documents regulating the procedures for developing and defending a scientific study.
- Be able to prepare materials for a report and presentation in the defense of their research.
- Prepare the results of their research for publication.

CURRICULUM CONTENT

LECTURES

Topic	Hours
1. Research methodology. Nature of the scientific method and scientific research. Scientific ethics	1
2. The scientific theory. Scientific explanation and prediction	2
3. The problem of the universal scientific method, of the experimental repeatability of theory. Traditional concept of knowledge and scientific concept of knowledge	2
4. Developing the methodology of the research. Introduction to research methods	2
5. Aim, object and subject of the research	1
6. Study of scientific information	1
7. Formatting and presentation of a scientific paper	2
8. Development and funding of research projects	2
9. Scientific results as an object of intellectual property	1
10. Conditions for copyright in scientific results	1
Total:	**15**

SEMINARS AND EXERCISES

Topic	Hours
1. Scientific results and scientific products. Main stages of scientific research	3
2. Scientific ethics. General concept of ethics, morality, applied ethics, professional ethics. Place of values in science, Ethics in science - values, norms, principles, practices, role of ethics in science. Typical ethical problems in science	3
3. Development of the methodology of scientific research. Selection of topic. Formulation of the research problem. Significance. Relevance. Initial study of literature and factual sources. Working hypotheses. Probability of achieving new scientific and practical results	3
4. Aim, object and subject of the research. Characteristics of the research object. Selection of research methods. Development of a system of measures and indicators for analysis, evaluation and forecast of the object of study	3

5. Importance of the study of scientific information for scientific research. Working with catalogues and databases. Authoritative sources of scientific information. Results achieved and validated by the scientific community in a given field - review and summarize the achievements and contributions of other authors. Tracking the literature over time. Critical analysis of the literature. Publicly accessible information retrieval systems and databases on the Internet. The place of literature and data in research.	3
6. Formation and presentation of a scientific paper. Citation and bibliography architecture. Formatting of the text - title and cover page, chapter and paragraph headings. Spacing, formulae, tables, diagrams, etc. Scientific and stylistic editing. Presentation of the scientific work	3
7. Mandatory attributes of a research project. Translating a research idea into a defensible research project proposal. Funding sources for research projects Establishing and managing a research team. Publication of project results in refereed scientific journals with impact factor	3
8. Scientific results as an object of intellectual property. Characteristics of scientific results determining the specificity of their ownership. Recognition of intellectual property rights over scientific results in international treaties and national legislation	3
9. Conditions for the emergence of copyright on scientific results. Content and duration of copyright. Author, authorship and co-authorship. Use of scientific results by the employer. Copyright contract and royalty. Free use of scientific results for academic other purposes	3
10. Presenting and defending a presentation on a scientific problem	3
Total:	**30**

BACKGROUND
for Research Methodology exam
for students of the specialty "Medicine"

1. Research methodology. Nature of the scientific method and scientific research. Scientific ethics
2. Scientific theory and the problem of demarcation. Scientific explanation and prediction
3. The problem of the universal scientific method, the experimental repeatability of theory. Traditional concept of knowledge and scientific concept of knowledge
4. The development of the methodology of scientific inquiry. Introduction to research methods
5. Purpose, object and subject of scientific research
6. Study of scientific information
7. Formation and presentation of a scientific work
8. Developing and funding research projects
9. Scientific results as an object of intellectual property
10. Conditions for copyright in scientific results

BIBLIOGRAPHY

1. Shanti Bhushan Mishra, Shashi Alok, Handbook of Research Methodology, 2017, Educreation, Delhi, ISBN: 978-1-5457-0340-3.
2. Stuart MacDonald & Nicola Headlam, Research Methods Handbook, Centre for Local Economic Strategies Express Networks, Manchester M4 5DL, ISBN: 1870053656.
3. Muhammad Mahboob Ali, Md. Kamrul Hossain, Instruction Manual: Research Methodology, volume 2, 2016, Office Manager, Institutional Quality Assurance Cell, Daffodil International University, ISBN: 978-984-34-1757-2.
4. Muhammad Mahboob Ali, Md. Kamrul Hossain, Instruction Manual: Research Methodology, volume 2, 2016, Office Manager, Institutional Quality Assurance Cell, Daffodil International University, ISBN: 978-984-34-1757-2.

Students can use any other textbook in Research Methodology covering above topics.

Compiled by: ....

(Assoc. Prof. Rumyana Yankova, PhD)

Approved by a decision of the Council of the Department of Physiology, Pathophysiology, Chemistry and Biochemistry, Protocol №1/13.02.2024.

Head of Department ....

(Assoc. Prof. Yordan Georgiev, PhD)

Approved by a decision of the Faculty Council of the Medical Faculty, Protocol №..3./15.02.2024.

Secretary of the Council of the Medical Faculty: ....

(Chief assist. Prof. Ruska Nenkova, PhD)