

SYLLABUS

1. General information on the course

Full course name	Fundamentals of Reflexotherapy
Full official name of a higher education institution	Sumy State University
Full name of a structural unit	Academic and Research Medical Institute. Кафедра нейрохірургії та неврології з курсами психіатрії, наркології, медичної психології, професійних хвороб
Author(s)	Yurchenko Alla
Cycle/higher education level	The Second Level Of Higher Education, National Qualifications Framework Of Ukraine – The 7th Level, QF-LLL – The 7th Level, FQ-EHEA – The Second Cycle
Semester	1 week across 9 semester or 1 weeks across 10 semester
Workload	The volume of the discipline is 3 credit ECTS, 90 hours, of which 20 hours is contact work with the teacher (hours practical classes), 70 hours is independent work
Language(s)	English

2. Place in the study programme

Relation to curriculum	Elective course available for study programme "Medicine"
Prerequisites	There are no specific pre-requisites
Additional requirements	There are no specific requirements
Restrictions	There are no specific restrictions

3. Aims of the course

The purpose of the discipline is to achieve students' holistic understanding of the basic theoretical and methodological aspects of reflexology, as well as the acquisition of practical skills its use in clinical settings; to teach students the general principles of reflexology in diseases of the internal organs; to reveal the practical aspects of reflexology, ways and methods of using its achievements in clinical practice.

4. Contents

Module 1. General reflexology

Topic 1 Definition of reflexology, its role and place in modern medicine

The main theoretical and methodological aspects of modern non-drug therapy and rehabilitation. Sanogenetic processes, their components (restitution, regeneration, compensation, activity of the immune system, microcirculation). Possibilities of influence on them in clinical conditions. The concept of methods of complementary (reinforcing, complementary) medicine. The role of reflexology as an integral part of complementary medicine. Modern definition of reflexology, reflexogenic zones. Specifics of punctual reflexology (PRT), determination of acupuncture points (AP), the scheme of reactions to acupuncture. The main mechanisms of action of acupuncture therapy. Key indications for the use of PRT.

Topic 2 The main components of punctual reflexology: place of action, reception and moment of action.

Three main components of PRT: place of action. Properties of AP. Acupuncture layers. Ways to search AP. Using the meridian system. AP general action and their functional significance. Three main components of PRT: action (quantitative and qualitative characteristics). General principles of dosing irritation in PRT. Three main components of PRT: moment of action (time parameters and taking into account the activity of organs and systems). Meridian system as a moment of action. General contraindications to PRT. Segmental AP (therapeutic AP, Shu-points) and their functional significance.

Topic 3 Reflex diagnostics. General principles of acupuncture diagnosis.

Definition of reflex diagnostics and its systematization (local, segmental, meridian, microacupuncture). Organization of the autonomic nervous system. Clinical assessment of the direction of autonomic manifestations. Research of vegetative tone, vegetative reactivity and vegetative support of activity. Viscero-sensory phenomenon (Zachary-Gad zone).

Topic 4 Microacupuncture systems. Combination of acupuncture zones.

Modern ideas about microacupuncture systems (MAS) and their properties. Auricular MAS, systematics of its acupuncture zones. Principles of selection and combination of AP in PRT. Corporal points of general action, segmental and local, possibilities of their combination with microacupuncture points. Formation of optimal compositions of AP depending on the existing functional disorders in patients of different profiles

Topic 5 Principles of reflex anesthesia

The concept of nociceptive and antinociceptive systems. Endogenous opioids (localization, functions, features of action). Reflexology as a means of first aid. Reflexology in complex measures for pain syndromes. Analgesic parameters of stimulation of acupuncture zones. Methods of acupuncture analgesia.

Module 2. Special reflexology

Topic 6 General provisions of manual reflexology. Acupressure. Local barotherapy.

Chiropractic and its scope, types of biomechanical disorders. Therapeutic effects of chiropractic. Features of manual diagnostics, the concept of anatomical and functional barriers. The most important methods of manual therapy. Structural and functional features of joints, spine and their consideration in chiropractic. X-ray diagnostic signs of osteochondrosis of the spine. Definition of acupressure and its types. Mechanisms of therapeutic action of acupressure. Advantages and limitations of acupressure. Acupressure techniques. Simple finger pressing. AP, which are most often used in acupressure. Local barotherapy, its therapeutic effects and methods of application.

<p>Topic 7 Superficial multi-needle acupuncture. Thermoreflexotherapy.</p> <p>Superficial multi-needle acupuncture (SMNA) and its types, mechanisms of therapeutic action, indications and contraindications. Methods of conducting SMNA. Dosage of irritation in SMNA. Stimulation zones in the SMNA. Thermal therapeutic factors in reflexology. Temperature sensitivity, thermal and cold thermoreactions, therapeutic effects of thermoreflexotherapy. Methods of heat puncture. General indications for its use. Local cryotherapy.</p>
<p>Topic 8 Electroreflexotherapy: percutaneous electroneurostimulation (PENS). Electromyostimulation. Laser therapy.</p> <p>Electrotherapeutic factors in reflexology. The mechanism of analgesic action of PENS: scheme of gate control of pain, classification of nerve fibers. Methods of conducting CHENS. Stimulation zones, time parameters of PENS. Electromyostimulation, its therapeutic effects and methods of application. Laser therapy and laser acupuncture: mechanisms of therapeutic action, methods, indications for application.</p>
<p>Topic 9 Myofascial pain syndrome. Manual methods of muscle correction.</p> <p>Manual methods of muscle correction. Myofascial pain syndrome. Manual muscle examination. Manual methods of muscle correction. Myofascial trigger points and methods of their inactivation. Postisometric muscle relaxation. Algorithm of application of manual therapy</p>
<p>Topic 10 Final modular control</p> <p>Testing</p>

5. Intended learning outcomes of the course

After successful study of the course, the student will be able to:

LO1	Acquire the skills of interviewing and objective examination of the patient. Analyze the clinical manifestations of the disease and form an algorithm for the use of reflexology (punctured and manual)
LO2	Demonstrate mastery of simple methods of reflexology (acupressure and segmental massage, thermoreflexology, postisometric muscle relaxation, etc.)
LO3	To substantiate optimum parameters of electrostimulation for carrying out percutaneous electroneurostimulation and electromyostimulation
LO4	To determine the features of the use of reflexology methods in different medical situations (first aid, treatment, rehabilitation, prevention).
LO5	Prescribe reflexology methods depending on the phase or stage pathological process, individual reactivity.
LO6	Ability to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information, taking into account aspects of social and ethical responsibility.

7. Teaching and learning activities

7.1 Types of training

Topic 1. Definition of reflexology, its role and place in modern medicine
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pr.tr.1 "Topic 1. Definition of reflexology, its role and place in modern medicine" (full-time course)

The main theoretical and methodological aspects of modern non-drug therapy and rehabilitation. Sanogenetic processes, their components (restitution, regeneration, compensation, activity of the immune system, microcirculation). The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies about the history of the study of reflexology, its role and place in modern medicine, reflexogenic zones, the specifics of punctual reflexology) with further discussion. In addition, the study of this topic involves role-playing games, work in a simulation center to determine the points of acupuncture, the possibility of influencing them in a clinical setting, studying the pattern of reactions to acupuncture, determining key indications for the use of PRT.

Topic 2. The main components of punctual reflexology: place of action, reception and moment of action.

pr.tr.2 "The main components of punctual reflexology: place of action, reception and moment of action." (full-time course)

Three main components of PRT: place of action, reception of action (quantitative and qualitative characteristics), moment of action (time parameters and taking into account the activity of organs and systems). Properties of AP. Acupuncture layers. Ways of searching AP. Use of the meridian system. AP general action and their functional significance. General principles of dosage irritation in RT. General contraindications to RT. Segmental TA (therapeutic TA, Shu-points) and their functional value. The study of this topic involves theoretical work in classroom, use of virtual simulation (watching films with methods AP search, use of the meridian system, time parameters and consideration activity of organs and systems) with further discussion. In addition, the study of this topic include role-playing games with the definition of general dosing principles irritation in PRT, general contraindications to PRT. Interpretation of the received data examination, determination of TA and contraindications to PRT in specialized departments medical institution (according to the cooperation agreement between the medical institution and university).

Topic 3. Reflex diagnostics. General principles of acupuncture diagnosis.

pr.tr.3 "Reflex diagnostics. General principles of acupuncture diagnosis." (full-time course)

Definition of reflex diagnostics and its systematization (local, segmental, meridian, microacupuncture). Organization of the autonomic nervous system. Clinical assessment of the direction of autonomic manifestations. Research of vegetative tone, vegetative reactivity and vegetative support of activity. Viscero-sensory phenomenon (Zachary-Gad zone). The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies with methods of functional and instrumental study of the functions of the autonomic nervous system, autonomic tests) with further discussion. In addition, the study of this system includes role-playing games, work in a simulation center with thermometry, study of autonomic tone, study of visceral-vegetative phenomenon. Interpretation of the obtained survey data by different methods of patients of specialized departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 4. Microacupuncture systems. Combination of acupuncture zones.

pr.tr.4 "Microacupuncture systems. Combination of acupuncture zones." (full-time course)

Modern ideas about microacupuncture systems (MAS) and their properties. Auricular MAS, systematics of its acupuncture zones. Principles of selection and combination of AP in PRT. Corporal points of general action, segmental and local, possibilities of their combination with microacupuncture points. Formation of optimal compositions of AP depending on the existing functional disorders in patients of different profiles. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching films with modern ideas about microacupuncture systems) with further discussion. In addition, the study of this system involves role-playing games with the determination of the combination of general, segmental and local body points with micro-acupuncture points are provided. Interpretation of the obtained survey data by different methods of patients of specialized departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 5. Principles of reflex anesthesia

pr.tr.5 "Principles of reflex anesthesia" (full-time course)

Principles of reflex anesthesia. The concept of nociceptive and antinociceptive systems. Endogenous opioids (localization, functions, features of action). Reflexology as a means of first aid. Reflexology in complex measures for pain syndromes. Analgesic parameters of stimulation of acupuncture zones. Methods of acupuncture analgesia. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies with first aid by reflexology, in a comprehensive treatment of pain syndromes) with further discussion. In addition, the study of this topic provides role-playing games with the study of acupuncture analgesia. Interpretation of the obtained data of examination of patients in the profile departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 6. General provisions of manual reflexology. Acupressure. Local barotherapy.

pr.tr.6 "General provisions of manual reflexology. Acupressure. Local barotherapy." (full-time course)

Chiropractic and its scope, types of biomechanical disorders. Therapeutic effects of chiropractic. Features of manual diagnostics, the concept of anatomical and functional barriers. The most important methods of manual therapy. Definition of acupressure and its types. Mechanisms of therapeutic action of acupressure. Advantages and limitations of acupressure. Acupressure techniques. Simple finger pressing. AP, which are most often used in acupressure. Local barotherapy, its therapeutic effects and methods of application. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies to identify features of manual diagnosis, the concept of anatomical and functional barriers, the most important methods of manual therapy, of acupressure, simple finger pressing) with further discussion. In addition, the study of this topic provides role-playing games with the study of the technique of simple finger pressing. Interpretation of the obtained data of examination of patients in the profile departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 7. Superficial multi-needle acupuncture. Thermoreflexotherapy.

pr.tr.7 "Superficial multi-needle acupuncture. Thermoreflexotherapy." (full-time course)

Superficial multi-needle acupuncture (SMNA), types, mechanisms of therapeutic action, indications and contraindications. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies with methods of SMNA) with further discussion. In addition, the study of this topic provides role-playing games with the study of the dosage of irritation in SMNA, the stimulation zone in SMNA. Interpretation of the obtained data of examination of patients in the profile departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 8. Electroreflexotherapy: percutaneous electroneurostimulation (PENS). Electromyostimulation. Laser therapy.

pr.tr.8 "Electroreflexotherapy: percutaneous electroneurostimulation (PENS). Electromyostimulation. Laser therapy." (full-time course)

Electrotherapeutic factors in reflexology. The mechanism of analgesic action of PENS: scheme of gate control of pain, classification of nerve fibers. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies with methods of PENS and methods of application) with further discussion. In addition, the study of this topic provides role-playing games with the study of the stimulation zone, the time parameters of PENS. Interpretation of the obtained data of examination of patients in the profile departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 9. Myofascial pain syndrome. Manual methods of muscle correction.

pr.tr.9 "Myofascial pain syndrome. Manual methods of muscle correction." (full-time course)

Myofascial pain syndrome. Manual methods of muscle correction. Myofascial trigger points and methods of their inactivation. Postisometric muscle relaxation. Algorithm of application of manual therapy. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies with methods of manual examination of muscles, myofascial trigger points, postisometric muscle relaxation) with further discussion. In addition, the study of this topic includes role-playing games with the study of the algorithm of manual therapy and postisometric muscle relaxation. Interpretation of the obtained data of examination of patients in the profile departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 10. Final modular control

pr.tr.10 "Final modular control" (full-time course)

Testing

7.2 Learning activities

LA1	Preparation for practical classes
LA2	E-learning in systems (Zoom, MIX.sumdu.edu.ua, OCW.sumdu.edu.ua)
LA3	Self-education
LA4	Case-study
LA5	Watching educational films

LA6	Individual research project (preparation of multimedia presentations)
LA7	Preparation for current and final control
LA8	Work with textbooks and relevant information sources
LA9	Practical work with the patient in specialized departments of the hospital

8. Teaching methods

Course involves learning through:

TM1	Case-based learning (CBL).
TM2	Team-based learning (TBL).
TM3	Research-based learning (RBL).
TM4	Role games
TM5	Brain storm
TM6	Educational discussion / debate

The discipline is taught using modern teaching methods (CBL, TBL, RBL), which not only promote the development of professional skills, but also stimulate creative and scientific activities and are aimed at training practice-oriented professionals.

The discipline provides students with the following soft skills: LC 1. Ability to abstract thinking, analysis and synthesis. LC 2. Ability to learn, master modern knowledge and apply them in practical situations. CL 3. Knowledge and understanding of the subject area and understanding of professional activity. LC 4. Ability to adapt and act in a new situation. LC 5. Ability to make informed decisions; work in a team; skills of interpersonal interaction. LC 7. Ability to use information and communication technologies of the LC 8. Definiteness and persistence in relation to the set tasks and responsibilities.

9. Methods and criteria for assessment

9.1. Assessment criteria

Definition	National scale	Rating scale
Outstanding performance without errors	5 (Excellent)	$170 \leq RD \leq 200$
Above the average standard but with minor errors	4 (Good)	$140 \leq RD < 169$
Fair but with significant shortcomings	3 (Satisfactory)	$120 \leq RD < 139$
Fail – some more work required before the credit can be awarded	2 (Fail)	$0 \leq RD < 119$

9.2 Formative assessment

FA1	Computer tests
FA2	Interviews and oral comments of the teacher on his results
FA3	Peer assessment

FA4	Checking and evaluating of written assignments
FA5	Solving situational tasks
FA6	Defence of presentation

9.3 Summative assessment

SA1	Overall score for the current success of the discipline
SA2	Presentation protection
SA3	Solving a clinical case
SA4	Final control: practice-oriented differentiated test (according to the regulations)

Form of assessment:

9 semester	200 scores
SA1. Overall score for the current success of the discipline	100
	100
SA2. Presentation protection	10
	10
SA3. Solving a clinical case	10
	10
SA4. Final control: practice-oriented differentiated test (according to the regulations)	80
	80
10 semester	200 scores
SA1. Overall score for the current success of the discipline	100
	100
SA2. Presentation protection	10
	10
SA3. Solving a clinical case	10
	10
SA4. Final control: practice-oriented differentiated test (according to the regulations)	80
	80

Form of assessment (special cases):

9 semester	200 scores
SA1. Overall score for the current success of the discipline	100

	In case of quarantine restrictions, evaluation of written works, surveys, clinical case solving are carried out remotely using the platform Mix.sumdu.edu.ua, Zoom, Google meet.	100
SA2. Presentation protection		10
	In case of quarantine restrictions, the protection is carried out on-line using the platform Mix.sumdu.edu.ua, Zoom, Google meet.	10
SA3. Solving a clinical case		10
	In case of quarantine restrictions, the grading is carried out on-line using the platform Mix.sumdu.edu.ua, Zoom, Google meet.	10
SA4. Final control: practice-oriented differentiated test (according to the regulations)		80
	In case of quarantine restrictions, the grading is carried out on-line using the platform Mix.sumdu.edu.ua, Zoom, Google meet.	80

Grade in the discipline is defined as the sum of points for current educational activities (not less than 72) and points for the final module control (not less than 48). The number of points for the current activity is calculated by the formula $100 \times \text{the arithmetic mean of the student's success in the 4-point grading system} / 5$. The student receives a maximum of 10 points for solving a clinical case. The minimum number of points that a student must receive is 6 points. For the defense of the presentation the student receives a maximum of 10 points, a minimum of 6. The student is admitted to the test subject to the requirements of the curriculum and if for the current educational activity he scored at least 72 points: 60 points during practical classes, 6 points for defense presentations and 6 points for solving a clinical case. The final module control is conducted at the end of the semester in the form of a written test, with a score of "5" corresponds to 80 points, "4" - 64 points, "3" - 48 points, "2" - 0 points. In case of unsatisfactory result for the final module control, the student has the right to retake the test. Students who fail to take the test without good reason are considered to have received an unsatisfactory grade. The student's refusal to perform the final modular task is certified as an unsatisfactory answer.

10. Learning resources

10.1 Material and technical support

MTS1	Information and communication systems, computers, computer systems and networks
MTS2	Library funds, films, video recordings
MTS3	Sumy Regional Clinical Hospital
MTS4	Multimedia, video and audio, projection equipment (video cameras, projectors, screens, smart boards)
MTS5	Medical equipment, tools for reflexology manipulations.
MTS6	Software (to support distance learning, use of the training platform Mix.sumdu.edu.ua, in special cases of the platforms Google meet, Zoom)

10.2 Information and methodical support

Essential Reading	
1	Acupuncture-induced analgesia: the role of microglial inhibition / L. Lin, N. Skakavac, X. Lin [et al.] // Cell Transplantation. – 2018. – Vol. 25, P. 621–628.
2	Reflexology: Exploring the mechanism of action. Judith Whatleya, Joanne Perkinsb, Carol Samuel https://www.sciencedirect.com/journal/complementary-therapies-in-clinical-practice August 2022,
3	https://www.sciencedirect.com/journal/journal-of-traditional-and-complementary-medicine/vol/12/issue/4
Web-based and electronic resources	
1	http:// www.acucouncil.org
2	http:// www.medicalacupuncture.org
3	http:// www.acudetox.com