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## ADVANCED PHYSICAL ASSESSMENT AS A COURSE OF STUDIES FOR FUTURE MASTERS OF SCIENCE IN NURSING AT I. HORBACHEVSKY TERNOPIL NATIONAL MEDICAL UNIVERSITY

**Advanced physical assessment as a course of studies for future masters of science in nursing at I. Horbachevsky Ternopil National Medical University**

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**Summary.** *Advanced research and assessment of the patient's health status plays a key role in the practice of a nurse. As autonomous, independent health care providers, nurses perform health assessments to evaluate patient needs and determine the best treatments. Advanced health assessment is a systematic process for evaluating the physical, mental and functional aspects of patient health. Mastering this diagnostic tool is vital to nurse's practice because health assessment forms the basis of patient care*

**The aim of the study** – to describe and analyze the academic program of the course *Advanced Physical Assessment*, branch of knowledge – 22 HEALTH CARE, specialty “223 NURSING”, training program “NURSING”, degree of higher education – Second (Master) level of higher education in the international students' faculty of *I. Horbachevsky TNMU*.

**Materials and Methods.** *It was described and analyzed both the training program and the academic program of the course “Advanced Physical Assessment”, available for students of the second degree of higher education in the Institute of Nursing, I. Horbachevsky Ternopil National Medical University.*

**Results.** *The course of studies “Advanced Physical Assessment”, which was developed according to the requirements of the training program is aimed at development of systemic knowledge and understanding of conceptual foundations by students utilizing systematic history taking and the knowledge of therapeutic communication to elicit subjective data; collecting objective data; validating, analyzing and documentation of those data. This course ensures the acquisition of the appropriate competences and program learning outcomes, consists of lectures, training sessions and student's independent work. It presents an overview of the full and comprehensive health assessment of patients across the life span. It emphasizes multiple aspects of advanced health assessment, including physical, functional and mental health assessment along with transcultural variations.*

**Поглиблене дослідження та оцінка стану здоров'я як навчальна дисципліна для майбутніх магістрів медсестринства в Тернопільському національному медичному університеті імені І. Я. Горбачевського**

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**Резюме.** *Поглиблене дослідження та оцінка стану здоров'я пацієнта відіграють ключову роль у практиці медсестри. Будучи автономними та незалежними постачальниками медичних послуг, медсестри оцінюють стан здоров'я пацієнтів з метою визначення їх потреб та найбільш дієвих методів лікування. Поглиблене дослідження та оцінка стану здоров'я – це систематичний процес оцінки фізичних, психічних і функціональних аспектів здоров'я пацієнта. Володіння цим діагностичним інструментом є життєво важливим для практики медсестри, оскільки оцінка стану здоров'я лежить в основі належного догляду за хворим.*

**Мета дослідження** – описати та проаналізувати робочу програму дисципліни «Advanced Physical Assessment», галузь знань – 22 «Охорона здоров'я», спеціальність 223 «Медсестринство», програма підготовки «Сестринська справа», ступінь вищої освіти – другий (магістерський) рівень вищої освіти на факультеті іноземних студентів Тернопільського національного медичного університету (ТНМУ) імені І. Я. Горбачевського.

**Матеріали та методи.** У статті описано та проаналізовано матеріали освітньо-професійної програми «Сестринська справа» та робочу програму з навчальної дисципліни «Advanced Physical Assessment» для студентів другого рівня вищої освіти інституту медсестринства ТНМУ імені І. Я. Горбачевського.

**Результати.** Навчальна дисципліна «Advanced Physical Assessment» розроблена відповідно до вимог освітньо-професійної програми та спрямована на розвиток системних знань і розуміння концептуальних основ студентами, використовуючи систематичний збір анамнезу та знання терапевтичного спілкування для визначення даних суб'єктивного обстеження; збору даних об'єктивного обстеження; підтвердження, аналізу та документування цих даних. Дана дисципліна забезпечує набуття відповідних компетенцій і програмних результатів навчання та складається з лекцій, практичних занять і самостійної роботи

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**Conclusions.** According to the requirements of the training program "Nursing" the course of studies "Advanced Physical Assessment" is available for students of the second (master) degree of higher education. The course of studies "Advanced Physical Assessment" consists of lectures (24 hours), training sessions (30 hours) and student's independent work (126 hours). The course of studies "Advanced Physical Assessment" ensures the acquisition of the appropriate competences and program learning outcomes in accordance with the training program "Nursing". The assessment of students' performance is evaluated using the criteria for assessment of students' knowledge and skills.

**Key words:** advanced physical assessment; nursing, second (master) level of higher education; academic program; training program; competences; program learning outcomes.

## INTRODUCTION

As nursing becomes a first-level discipline, the central focus of the development process of nursing science is the independent exploration of the future path of nursing care. In general, Advanced physical assessment provides the core skills for basic nursing practice [1, 3]. This course focuses on the development of a body systems approach to health assessment of individuals emphasizing normal growth and developmental responses across the lifespan. Content includes an introduction to the knowledge and skills of health assessment through a variety of methodologies in the classroom, opportunities to practice skills in the nursing laboratory and experiences in the clinical settings. Students apply communication techniques in eliciting comprehensive health histories and perform physical examinations in evaluating health status [2].

Advanced physical assessment is one of the main courses, which provide the nurse with the knowledge needed to provide a complete health assessment for an adult patient. Physical assessment of patients falls under the purview of both physicians and nurses. While some nurses practice in extended roles (Advanced Nurse Practitioners), others maintain a more traditional role in the acute care setting. Assessment of patients varies based on both role and setting. A cardiac care nurse will be more familiar with and attuned to cardiac issues. A nurse on a neurologic unit will be more familiar with a more complex neurologic exam [4].

**The aim of the study** – to describe and analyze the academic program of the course Advanced Physical Assessment, branch of knowledge – 22 HEALTH CARE,

студента. В рамках вивчення предмету «Advanced Physical Assessment» проводиться огляд повної та комплексної оцінки здоров'я пацієнтів упродовж усього життя з акцентом на різноманітні аспекти поглибленого обстеження та оцінки стану здоров'я, включаючи оцінку фізичного, функціонального та психічного здоров'я, а також їх культурні особливості.

**Висновки.** Відповідно до вимог навчальної програми «Сестринська справа», навчальна дисципліна «Advanced Physical Assessment» доступна для студентів другого (магістерського) ступеня вищої освіти. Дана дисципліна складається з лекцій (24 год), навчальних занять (30 год) та самостійної роботи студента (126 год). Advanced Physical Assessment забезпечує набуття відповідних компетенцій та програмних результатів навчання відповідно до навчальної програми «Сестринська справа». Оцінювання успішності студентів здійснюється за затвердженими критеріями оцінювання знань та вмінь студентів.

**Ключові слова:** поглиблене дослідження та оцінка стану здоров'я; сестринська справа; другий (магістерський) рівень вищої освіти; робоча програма; освітньо-професійна програма; компетенції програмні результати навчання.

specialty "223 NURSING", training program "NURSING", degree of higher education – Second (Master) level of higher education in the international students' faculty of I. Horbachevsky TNMU.

## MATERIALS AND METHODS

It was described and analyzed both the training program and the academic program of the course of studies "Advanced Physical Assessment", available for students of the second degree of higher education in the Institute of Nursing, I. Horbachevsky Ternopil National Medical University.

## RESULTS AND DISCUSSION

Advanced health assessment is central to nurse practitioner practice. As autonomous, independent health care providers, nurses perform health assessments to evaluate patient needs and determine the best treatments. Advanced health assessment is a systematic process for evaluating the physical, mental and functional aspects of patient health. Mastering this diagnostic tool is vital to nurse's practice because health assessment forms the basis of patient care.

Every education program in Nursing has a required course in advanced health assessment [5]. At I. Horbachevsky TNMU it's called 223 Nursing: Advanced Health Assessment [6]. The course presents an overview of the full and comprehensive health assessment of patients across the life span. It emphasizes multiple aspects of advanced health assessment, including physical, functional and mental health assessment along with transcultural variations.

To date, little research has been conducted to identify the role of advanced physical assessment skills in improving patient outcomes in general nursing practice. Although the theory of a comprehensive or more detailed physical assessment benefiting patients seems logical, the complexities of actual nursing practice leave its purpose ambiguous for a majority of nursing situations. With increasing demands on nursing resources and time, not to mention curriculum overload, the benefits and outcomes for patients of nurses learning and using these skills need to be demonstrated [7] discussed and studied by students of higher educational establishments.

The academic program of the course “Advanced Physical Assessment” [8] is drawn up for students studying at I. Horbachevsky Ternopil National Medical University, Training program “Nursing”, the second (master) degree of higher education, branch of knowledge “22 Health Care”, specialty “223 Nursing”.

The academic program of the course is compiled according to the relevant curriculum of I. Horbachevsky Ternopil National Medical University, discussed and approved at a meeting of the Academic Board of I. Horbachevsky Ternopil National Medical University, Protocol No. 4, dated April, 4th, 2022 and the Order No. 186 entered into force on April, 27th, 2022.

According to the Training Program “Nursing” of the second (master) level of higher education, branch of knowledge 22 Health Care, Specialty 223 Nursing, the course “Advanced Physical Assessment” ensures the acquisition of the following competences and program learning outcomes by students:

- Professional competences

PC 3. Ability to solve problems in the field of nursing in new or unfamiliar environments in the conditions of incomplete or limited information access, with the account of standards of professional activity and aspects of social and ethical responsibility.

PC 10. Ability to collect medical information about a patient and analyse clinical data.

- Program learning outcome

PLO 3. Possess specialized problem-solving abilities/skills, taking into account standards of professional activity and aspects of social and ethical responsibility. The course “Advanced Physical Assessment” is aimed at development of systemic knowledge and understanding of conceptual foundations by students utilizing systematic history taking and the knowledge of therapeutic communication to elicit subjective data; collecting objective data; validating, analyzing and documentation of those data. Holistic health assessment is viewed from a health promotion, cultural, nutritional, mental health and developmental perspective. During this course students will identify appropriate methods of data collection to conduct a multidimensional systemic screening health assessment on clients across the lifespan.

“Advanced Physical Assessment” as a course:

a) is based on basic knowledge of disciplines: fundamentals of nursing, medical nursing, culture and deontology, mental disorders and communication technics;

b) provides relevant knowledge, competences and program learning outcomes for further mastering of providing the assessment of patients by the students.

When studying the course “Advanced Physical Assessment” use the following teaching methods: verbal (story, conversation, explanation); practical (exercise, experiment, performance task); explanatory and illustrative (lectures, educational literature, natural objects, videos, etc.); analytical; problem statement; research.

The use of interactive technologies of joint and group learning (general circle, microphone, brainstorming, case-method, etc.) promotes understanding of learning material; situational modeling technologies (simulation or imitation); technologies for processing argued issues (defining a viewpoint, defending it, changing a viewpoint, debates, talk shows, etc.); elements of distance learning (MS Teams, Google Meet services, etc.).

As a result of studying the course “Advanced Physical Assessment” the student must know:

- appropriate interviewing strategies when obtaining a health history;

- appropriate interviewing strategies when obtaining complains;

- appropriate methods of data collection to conduct a multidimensional systemic screening health assessment on clients across the lifespan.

- deviations from the norm when performing a health history and physical assessment.

- the influence of culture, lifestyle, family, environment, developmental stage, nutrition exercise and mental health on the health status of the patient.

As a result of studying the course “Advanced Physical Assessment” the student must be able to:

- Identify appropriate methods of data collection to conduct a multidimensional systemic screening health assessment on clients across the lifespan.

- Explore effective therapeutic communication skills for the health assessment of the individual client and the family.

- Describe appropriate interviewing strategies when obtaining a health history.

- Recognize deviations from the norm when performing a health history and physical assessment.

- Examine the influence of culture, lifestyle, family, environment, developmental stage, nutrition exercise and mental health the health status of the patient.

The course includes lectures (24 hours) [9], training sessions (30 hours) [10] and student's independent work (126 hours), thematic plans are presented below.

**Table 1.** The Thematic Plan of Lectures

No	Theme of the lecture	Hours
Part I COURSE INTRODUCTION		
1	Course Introduction.	2
Part II ASSESSMENT OF CARDIO-VASCULAR AND RESPIRATORY SYSTEMS		
2	Assessment of Respiratory System (part 1)	2
3	Assessment of Respiratory System (part 2)	2
4	Assessment of Cardiovascular System (part 1)	2
5	Assessment of Cardiovascular System (part 2)	2
6	Assessment of Peripheral Vascular System	2
Part III ASSESSMENT OF ABDOMEN AND URINARY SYSTEM		
7	Abdomen: Assessment (part 1)	2
8	Abdomen: Assessment (part 2)	2
9	Assessment of Urinary System	2
Part IV ASSESSMENT OF MUSCULOSKELETAL AND NEUROLOGICAL SYSTEM		
10	Assessment of Musculoskeletal System (part 1)	2
11	Assessment of Musculoskeletal System (part 2)	2
12	Assessment of Neurological System	2
	TOTAL	24

**Table 2.** The Thematic Plan of Training Sessions

N	Topics	Hours
Part I COURSE INTRODUCTION		
1	Course Introduction.	6
2	Cultural Considerations and The Health History	6
Part II ASSESSMENT OF CARDIO-VASCULAR AND RESPIRATORY SYSTEMS		
3	Respiratory System: Assessment	6
4	Respiratory System: Disorders	6
5	Cardiovascular System: Assessment	6
	Total Hours	30

**Table 3.** The Thematic Plan of Student's Independent Work

N	Topics	Hours
Part I COURSE INTRODUCTION		
1	Course Introduction.	10
2	Cultural Considerations and The Health History	10
Part II ASSESSMENT OF CARDIO-VASCULAR AND RESPIRATORY SYSTEMS		
3	Respiratory System: Assessment	10
4	Respiratory System: Disorders	10
5	Cardiovascular System: Assessment	10
6	Cardiovascular System: Disorders	10
Part III ASSESSMENT OF ABDOMEN AND URINARY SYSTEM		
7	Abdomen: Assessment	10
8	Abdomen: Disorders	10
9	Urinary System: Assessment	10
10	Urinary System: Disorders	12
Part IV ASSESSMENT OF MUSCULOSKELETAL AND NEUROLOGICAL SYSTEM		
11	Musculoskeletal System: Assessment and Disorders	12
12	Neurological System: Assessment and Disorders	12
	Total Hours	120

**Table 4.** Criteria for assessment of students' knowledge and skills during a training session / seminar

Points	Criteria for assessment
1	In cases the student does not interpret the content of the learning material, has not completed performance tasks, has not drawn up a protocol
2	In cases the student has poor knowledge of the learning material, which is checked by offering them additional questions, and they are not aware of the content of performance tasks.
3	In cases the student reveals the content of the educational material in fragments, makes gross mistakes in defining the concepts and use of terminology, performance tasks are completed, protocol is drawn up partly.
4	In cases the student is aware of the main material, but can not independently and consistently formulate the answer, encouraging the teacher to offer him leading questions, performance tasks are completed fragmentarily.
5	In cases the student fragmentarily reveals the content of learning material, has an initial idea of the subject matter, performance tasks are not completed.
6	In cases the student is aware of the basic learning material, but with significant mistakes when presenting it; they give simple examples, insufficient definitions of concepts, adequate characteristic of general features of objects; the protocol of the lesson is not completed.
7	In cases the student reveals the main content of the learning material with minor mistakes in the sequence of material presented, in using scientific concepts and terms, they draw conclusions vaguely, are aware of the methodology of performance tasks, which are not completed.
8	In cases the student reveals the main content of the learning material; gives incomplete definitions of concepts; uses scientific terms inaccurately, draws conclusions vaguely, performance tasks are completed but with minor mistakes during the research.
9	In cases the student reveals the main content of the learning material; gives definitions of concepts and terms in full with minor mistakes in the sequence of presentation; performance tasks are completed independently with good knowledge of the methodology but with some inaccuracies in its sequence.
10	In cases the student shows profound knowledge of the material; can analyze, evaluate and reveal the essence of phenomena and processes; establish causal relationships; logically draw conclusions; a protocol of training session is drawn up with minor mistakes in using scientific terms and concepts.
11	In cases the student shows deep, profound and systematic knowledge in the volume of the academic program, answers all questions unmistakably, reasonably formulates conclusions using the materials of students' independent work; performance tasks are completed competently and consistently preserving the technique; the protocol of the training session is drawn up in full using scientific terms and concepts correctly.
12	In cases the student independently, competently and consistently, comprehensively answers questions using additional literature and characterizing various biological phenomena and processes; clearly and correctly defines and reveals the content of scientific terms and concepts, performance tasks are completed independently and correctly, the protocol of the training session is drawn up without any errors.

The knowledge in the course is assessed by current and final performance. The maximum points a student receives for the course is 200 points.

Current performance consists of:

- academic performance during training sessions /seminars (by a twelve-point scale);
- student's individual work (from 1 to 6 points).

The grade for the training session is positive if it is 4.0 points or more.

Students' individual work involves realization of their creative potential through individually directed development of abilities, research, creativity. The

tasks for student's individual work and the criteria for its assessment are defined by a department independently.

Current performance is calculated at the end of studying a discipline taking into account the average grade in training sessions / seminars (rounding of the GRADE is carried out according to the scheme: the range from 0 to 0.24 is rounded to a smaller unit; the range from 0.25 to 0.74 is rounded to 0.5; the range from 0.75 to 0.99 is rounded to a larger unit). Subsequently, the average performance grade is converted into a 200-point assessment scale.

**Table 5.** Criteria for students' individual work assessment

Points	Criteria for students' individual work assessment
1	speech (presentation) at a meeting of the student scientific circle
2	compiling a clinical crossword puzzle.
3	participation in the student scientific forum with abstracts publication
4	participation in the student scientific forum with a poster report
5	selection of materials and designing of a presentation on the relevant topic or part of the discipline
6	prize in the scientific forum

**Table 6.** The 200-point assessment scale.

Average grade	Scores on a 200-point assessment scale
4	66
4,5	69
5	72
5,5	75
6	78
6,5	81
7	84
7,5	87
8	90
8,5	93
9	96
9,5	99
10	102
10,5	105
11	108
11,5	111
12	114

The maximum points a student can score for current academic performance is 120 points (114 points for formative assessment and another 6 points for students' individual work).

Performance at the end of the course is assessed in the form of exam.

The exam involves taking a test at the Department of Independent Students Testing (75% of the summative assessment points) and an interview with examiners (25% of the summative assessment points). The maximum points a student receives for an exam is 80 points.

The test part provides for 48 tasks. The number of correct answers is converted into a 200-point assessment scale as follows:

Number of correct answers at the test part of the exam	Scores by a 200-point assessment scale
1–24	Failed
25, 26	38
27	39
28	40
29	41
30	42
31	43
32	44
33	45
34	46
35	47
36	48
37	49
38	50
39	51
40	52
41	53

42	54
43	55
44	56
45	57
46	58
47	59
48	60

The interview involves answering by a student three questions suggested by examiners. The examiner assesses the completeness of the answer to a particular question as follows:

Complete answer to the question	Score
No correct answer	0
Non-comprehensive answer	1
Incomplete answer	2
Comprehensive answer	3

The scores for answering three questions are converted into a 200-point scale as follows:

Scores for answering three questions	Scores by a 200-point assessment scale
0–3	Failed
4	13
5	14
6	15
7	16
8	18
9	20

The score obtained by a student in the discipline is converted according to the scale of the European Credit Transfer System (ECTS).

**The students are admitted to take a test** if they have no academic debt; have minimum points for academic performance (4.0); completed all types of work according to the academic program on the discipline.

## CONCLUSIONS

1. According to the requirements of the training program "Nursing" the course of studies "Advanced Physical Assessment" is available for students of the second (master) degree of higher education.

2. The course of studies "Advanced Physical Assessment" consists of lectures (24 hours), training sessions (30 hours) and student's independent work (126 hours)

3. The course of studies "Advanced Physical Assessment" ensures the acquisition of the appropriate competences and program learning outcomes in accordance with the training program "Nursing".

4. The assessment of current performance is evaluated using the criteria for assessment of students' knowledge and skills.

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