SYLLABUS OF THE EDUCATIONAL COMPONENT

ASSESSMENT OF HEALTHCARE TECHNOLOGIES

for applicants for higher education of 4,5 year of study
full-time form of education (4,10 year of study)
of educational program «Pharmacy»
in specialty «226 Pharmacy, industrial pharmacy»
field of knowledge «22 Health care»
training for second (master's) level of higher education

TEACHERS

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1. **The name of higher education establishment and department:** the National University of Pharmacy, Department of Organization and Economics of Pharmacy
2. **Address of the department:** 4, Valentynivska str., 3rd floor, Kharkiv, tel. 0572-67-91-70
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4. **Information about the teachers:**

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5. **Consultations :** *Consultations are held on the ZOOM platform according to the schedule*
6. **Brief summary of the educational component:** *The introduction of health technology assessment (HTA) into the educational process is due to the need to train future specialists in the issues of a scientifically based system for assessing the effectiveness and feasibility of using various medical technologies (including medicines). Currently, HTA is actively used to select the most effective medicines for inclusion in the National List, the Medical Guarantee Program and the procurement nomenclature.*
7. **The purpose statement of studying the educational component:** *to form a set of knowledge about effective planning and evaluation of the effectiveness of medical technologies in higher education students*
8. **Competencies in accordance with the educational program:**

Soft-skills / General competencies (GC):

GC 2. Ability to apply knowledge in practical situations, make informed decisions.
GC 4. Ability to think abstractly, analyze and synthesize, learn and be modernly trained.

GC 6. Knowledge and understanding of the subject area and understanding of professional activities.
GC 9. Skills in the use of information and communication technologies.
GC 12. Ability to conduct research at the appropriate level.

Hard-skills / Professional (special) competencies (PC):

PC 5. Ability to monitor the effectiveness and safety of the use of medicines by the population according to data on their clinical and pharmaceutical characteristics, as well as taking into account subjective signs and objective clinical, laboratory and instrumental criteria for examining the patient.
PC 9. Ability to analyze and predict the main economic indicators of pharmacy institutions, to calculate the main taxes and fees, to form prices for medicines and medical devices in accordance with the current legislation of Ukraine.
PC 11. Ability to analyze socio-economic processes in pharmacy, forms, methods and functions of the pharmaceutical supply system and its components in world practice, indicators of need, effectiveness and availability of pharmaceutical care in terms of health insurance and reimbursement of the cost of medicines.
PC 12. Ability to use in professional activities knowledge of regulatory and legal acts of Ukraine and recommendations of good pharmaceutical practices.

9. The program learning outcomes: (PLO):

PLO 2. Apply knowledge of general and special disciplines in professional activities.
PLO 4. Demonstrate the ability to independently search, analyze and synthesize information from various sources and use these results to solve typical and complex specialized tasks of professional activity.
PLO 6. Argue information for decision-making, be responsible for them in standard and non-standard professional situations; adhere to the principles of deontology and ethics in professional activities.
PLO 9. To carry out professional activities using information technology, "Information databases", navigation systems, Internet resources, software and other information and communication technologies.
PLO 12. Analyze information obtained from scientific research, summarize, systematize and use it in professional activities.
PLO 17. Use data from clinical, laboratory and instrumental studies to monitor the effectiveness and safety of medicines. PLO
PLO 21. To calculate the main economic indicators of pharmacies, as well as taxes and fees. To form all types of prices (wholesale, retail and purchase) for medicines and other goods of the pharmacy assortment.
PLO 23. Take into account data on socio-economic processes in society for pharmaceutical provision of the population, determine the effectiveness and availability of pharmaceutical care in terms of health insurance and reimbursement in
PLO 24. Plan and implement professional activities on the basis of regulatory legal acts of Ukraine and recommendations of good pharmaceutical practices

10. Status of the educational component: *selective*

11. Prerequisites of the educational component: *pharmacology, organization and economics of pharmacy, public procurement, pharmacoeconomics*

12. The volume of the educational component: *3 ECTS credits; the number of hours for the educational component is 90: for full-time students - 8 hours of lectures, 32 hours of practical classes, 50 hours of independent work*

13. Organization of training:

The format of teaching the educational component

Content of the educational component:

Content module 1. *Health technology assessment*

Topic 1: *Basic theoretical principles of health technology assessment (HTA)*
Topic 2. *Principles of building a HTA system in world practice and in Ukraine*
Topic 3. *Methodological principles of health technology assessment*
Topic 4. *The process of HTA*
Topic 5. *Methods for evaluating the effectiveness and safety of MT*
Topic 6. *Methods for assessing the economic feasibility of using MT*

Topic 7. *Scientific and applied aspects of the use of HTA. Formation of a system of socially effective prices for medicines*

Topic 8: *Using the results of the HTA in the formation of standards for the provision of medical and pharmaceutical care*

14. Forms and types of academic achievements supervision:

Forms and types of academic achievements supervision

Current control: oral questioning, preparation of test tasks, research and calculations

Control of content modules: solving situational (calculation) problems

Form of semester control: semester credit

Conditions for admission to the control of content modules: to be admitted to the control of the content module, you must have a minimum number of points for topics (classes)

Conditions for admission to the semester control: no unexcused absences from practical classes, fulfillment of all requirements provided for in the work program of the educational component..

15. Evaluation system of the educational component:

Evaluation system of the educational component *The results of semester control in the form of a semester test are evaluated on a 100-point, undifferentiated scale ("passed", "failed") and on the ECTS scale.*

The results of the semester control in the form of a semester exam are evaluated on the ECTS scale, 100-point and four-point scale ("excellent", "good", "satisfactory", "unsatisfactory").

Points for the educational component are awarded according to the following ratio:.

Types of evaluation	Maximum number of points (% of the number of points per module - for content modules)
Module 1	
Content module 1: Health technology assessment - *Assessment of topics (class work): class work (oral questioning, test tasks, solving situational (calculation) problems);* *- control of [illegible] 1 (solving situational (calculation) problems)*	*100 (100 %)*
Semester Supervision of Module 1	100

The individual work of applicants for higher education is evaluated during the control of knowledge at each lesson and during the content module supervision

16. Academic policies of the educational component:

Academic Integrity Policy. It is based on the principles of academic integrity set forth in the Regulations "On measures to prevent cases of academic plagiarism at NUPh". Cheating in assessing the progress of a higher education student during control measures in practical classes, control of content modules and semester exams is prohibited. Detection of signs of academic dishonesty in the written work of the student is the basis for its non-accreditation by the teacher.

Class attendance policy. The applicant for higher education is obliged to attend classes (POL "On the organization of the educational process of the NUPh") according to the schedule (https://nuph.edu.ua/rozklad-zanyat/), to adhere to ethical standards of behavior.

Policy regarding deadlines, working out, rating increase, liquidation of academic debts. The completion of missed classes by an applicant for higher education is carried out in accordance with the POL "Regulations on the completion of missed classes by applicants and the procedure for eliminating academic differences in the curricula of the National University of Pharmacy" in accordance with the schedule for working out missed classes established by the department. Increasing the rating and liquidating academic debts from the educational component is carried out by the applicants in accordance with the procedure specified in the POL "On the procedure for evaluating the results of training of applicants for higher education at the National University of Pharmacy ". Applicants of higher education are obliged to comply with all deadlines set by the department for the completion of written works from the educational component. Works that are submitted late without valid reasons are assessed at a lower grade - up to 20% of the maximum number of

points for this type of work.

Policy on appeals of evaluation of the educational component (appeals). Applicants for higher education have the right to contest (appeal) the evaluation of the educational component obtained during control measures. The appeal is carried out in accordance with the POL "Regulations on appealing the results of the final supervision of knowledge by applicants of higher education at the National University of Pharmacy".

17. Information and educational and methodical support of the educational component:

The main reading suggestions	1. *Introduction to HTA/ National Information Center on Health Services Research and Health Care Technology (NICHSR) https://www.nlm.nih.gov/nichsr/hta101/ta10103.html* 2. *HTA 101: Glossary https://www.nlm.nih.gov/nichsr/hta101/ta101013.html*
Supplementary reading suggestions for in-depth study of the educational component	1. *A Guide to ICER's Methods for Health Technology Assessment. Institute for Clinical and Economic Review, 2020. 43 p. URL: https://icer.org/wp-content/uploads/2021/01/ICER_HTA_Guide_102720.pdf* 2. *Angelis A., Lange A., Kanavos P. Using health technology assessment to assess the value of new medicines: results of a systematic review and expert consultation across eight European countries. Eur. J. Health Econ. 2018. Vol. 19, № 1. P. 123–152.* 3. *ATC/DDD Index 2022. WHO Collaborating Centre for Drug Statistics Methodology. URL: https://www.whocc.no/atc_ddd_index/).* 4. *Guidelines for the Economic Evaluation of Health Technologies: Canada. 4th ed. 2017. URL: https://www.cadth.ca/sites/default/files/pdf/guidelines_for_the_economic_evaluation_of_health_technologies_canada_4th_ed.pdf* 5. *Guiding principles for good practices in hospital-based health technology assessment units / L. Sampietro-Colom et al. IJTAHC. 2015. Vol. 31, №6. P. 457–465. DOI: https://doi.org/10.1017/S0266462315000732.* 6. *Health expenditure and financing. OECD.Stat. URL: https://stats.oecd.org/index.aspx?DataSetCode=SHA* 7. *Health technologies and pharmaceuticals programme: annual report 2018. Copenhagen, WHO Regional Office for Europe, 2019. 38 p.* 8. *Husereau, D., Drummond, M., Augustovski, F. et al. Consolidated Health Economic Evaluation Reporting Standards 2022 (CHEERS 2022) statement: updated reporting guidance for health economic evaluations. BMC Med 20, 23 (2022). https://doi.org/10.1186/s12916-021-02204-0* 9. *ICER Guide to Understanding Health Technology Assessment (HTA). Boston, Institute for Clinical and Economic Review, 2018. 12 p. URL: https://icer.org/wp-content/uploads/2020/10/ICER-Guide-to-Understanding-Health-Technology-Assessment-6.19.18.pdf* 10. *Regulation (EU) 2021/2282 of the European Parliament and of the Council of 15 December 2021 on health technology assessment and amending Directive 2011/24/EU (Text with EEA relevance) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32021R2282* 11. *Role of Health Technology Assessment in Pharmaceutical Market Access in Developed Countries // Pharmaceutical Market Access in Developed Markets / R. Kahveci et al. SEEd: Torino, 2018.* 12. *The HTA Core Model – 10 Years of Developing an International Framework to Share Multidimensional Value Assessment / F. B. Kristensen et al. Value Health. 2017. Vol. 20, № 2. P. 244–250.*
Current electronic information resources (magazines, websites) for in-depth study of the educational component	1. *Website of the Department of Organization and Economics of Pharmacy of the National University of Pharmacy http://economica.nuph.edu.ua/* 2. *Website of the Scientific Library of the National University of Pharmacy http://lib.nuph.edu.ua* 3. *Website of distance learning http://www.pharmel.kharkiv.edu/* 4. *Legislation of Ukraine - http://zakon.rada.gov.ua/*

	5. *IS "Medicines" (Morion). http://pharmbase.com.ua /* 6. *State Register of Medicinal Products (SUMP) - http://www.drlz.kiev.ua/* 7. *Directory of Medicinal Products http://www.drlz.kiev.ua/* 8. *World Health Organization (WHO) - http://www.who.int/ru/* 9. *Verkhovna Rada of Ukraine - http://rada.gov.ua/* 10. *Cabinet of Ministers of Ukraine - http://www.kmu.gov.ua/* 11. *Ministry of Health of Ukraine - http://www.moz.gov.ua/ua/portal/* 12. *Ministry of Economy of Ukraine - http://www.me.gov.ua/* 13. *State Statistics Service of Ukraine - http://www.ukrstat.gov.ua/* 14. *State Service on Medicines and Drugs Control of Ukraine - http://www.diklz.gov.ua/* 15. *State Expert Center of the Ministry of Health - http://www.dec.gov.ua/* 16. *European Network for Health Technology Assessment - http://www.eunethta.eu/* 17. *Introduction to Health Technology Assessment (HTA) – YouTube https://www.youtube.com/watch?v=aehXYIYFCLU*
Moodle distance learning system	

18. Material and technical support and software of the educational component:
personal computer (laptop), Zoom, Moodle, information retrieval systems