

**MINISTRY OF HEALTH OF UKRAINE  
ODESA NATIONAL MEDICAL UNIVERSITY**

**Faculty of medicine, international  
Department of obstetrics and gynecology**

**Syllabus in the discipline  
"Ultrasound diagnostics in obstetrics and gynecology»**

<b>Scope of the academic discipline</b>	Total hours per discipline: 90 hours, 3.0 credits. Semesters: <i>XI-XII</i> 6th year of study.
<b>Days, time, place of educational discipline</b>	According to the schedule of classes. Department of Obstetrics and Gynecology. Auditoriums of the Department of Obstetrics and Gynecology Odesa, str. Pasteur, 9
<b>Teacher(s)</b>	Ancheva I.A., PhD, professor. Artyomenko V.V., PhD, professor. Shitova G.V., PhD, associate professor. Onishchenko Yu.V., PhD, assistant.
<b>Contact Information</b>	Contact by phone: (048) 723-29-01 - department of obstetrics and gynecology Iryna Anatoliivna Ancheva, professor of the department 067-753-38-33 Artyomenko Volodymyr Viktorovych, professor of the department 050-316-44-87 Hanna Valentynivna Shitova, associate professor of the department 067-484-11-64 Yulia Volodymyrivna Onishchenko, assistant of the department 097-949-72-07 E-mail: <a href="mailto:yulia.onyshchenko@onmedu.edu.ua">yulia.onyshchenko@onmedu.edu.ua</a> Face-to-face consultations: from 2:00 p.m. to 5:00 p.m. every Thursday, from 9:00 a.m. to 2:00 p.m. every Saturday On-line - consultations: from 4:00 p.m. to 6:00 p.m. every Thursday, from 9:00 a.m. to 2:00 p.m. every Saturday. A link to online counseling is provided to each group during classes separately.

### **COMMUNICATION**

Communication with students will be conducted in the classroom (face-to-face). During distance learning, communication is carried out through the Microsoft Teams platform. Communication can also be carried out using E-mail. At the same time, it

is necessary to indicate your surname, first name, course, faculty and course name. Solving "work issues" is possible at the specified phone number.

## **ABSTRACT OF THE EDUCATIONAL DISCIPLINE**

*The subject of the discipline* is to acquaint students with the modern possibilities of ultrasound diagnostics in obstetrics and gynecology, to master the technique of conducting ultrasound examinations and to practice the ability to interpret the results of ultrasound examination.

*Prerequisites and post-requisites of the discipline (place of the discipline in the educational program):*

- *Prerequisites:* Ukrainian language (by professional direction), foreign language (by professional direction), Latin language and medical terminology, medical biology, medical and biological physics, biological and bioorganic chemistry, human anatomy, histology, cytology and embryology, physiology, microbiology, virology and immunology, basics of bioethics and biosafety, pathomorphology, pathophysiology, pharmacology, medical psychology.
- *Postrequisites:* obstetrics and gynecology, internal medicine, surgery, infectious diseases, epidemiology and principles of evidence-based medicine, oncology and radiation medicine, general practice (family medicine).

*The goal of the discipline:* Deepening of theoretical knowledge and mastering of practical skills in the field of ultrasound diagnostics in obstetrics and gynecology practice.

*Tasks of the discipline:*

1. Acquaintance of students with modern ultrasound research methods in obstetrics and gynecology.
2. Practical training of students with the use of modern equipment mastering the techniques of conducting abdominal and transvaginal ultrasound.

The process of studying the discipline is aimed at forming elements of the following competencies:

*Expected results:*

*As a result of studying the discipline, the student has to:*

*Know:*

- principles and methods of ultrasound research in obstetrics and gynecology.

*Be able:*

- to obtain a medical history of a patient, including important information about current and past concerns, family history
- to evaluate information about the diagnosis using a standard procedure, based on the results of laboratory and instrumental studies
- to describe the leading clinical symptom or syndrome (list 1)
- to determine the list of necessary clinical laboratory and instrumental studies and evaluate their results (list 4)

- to use the skills of communication and clinical examination of the patient

## **DESCRIPTION OF THE EDUCATIONAL DISCIPLINE**

### *Forms and methods of education:*

The discipline will be taught in the form of practical classes (30 classroom hours); organization of the students' independent work (60 hours).

*Teaching methods:* conversation, role-playing, solving clinical situational problems, practicing the skills of instrumental visualization of the organs of the abdominal cavity, pelvic organs, genitourinary system (MSG, ultrasound) and determining the required amount of examination in the format of an individual educational and research task.

### *Structure of the study subject:*

*Topic 1.* Fundamentals of ultrasound diagnostics of pelvic organs in gynecology. Ultrasound picture of normal anatomy and biometry of pelvic organs. Dynamics of changes in the ultrasound image of the uterus and ovaries during the menstrual cycle. Ultrasound features of the state of the uterus and ovaries in the postmenopausal period. Ultrasound diagnosis of congenital malformations. Ultrasound picture of vaginal abnormalities. Ultrasound criteria for doubling the uterus and vagina. Ultrasound picture of a saddle-shaped uterus and a T-shaped uterus.

*Topic 2.* Ultrasound diagnosis of benign tumors of the uterus. Ultrasound topography and biometry of uterine fibroids, FIGO classification. Features of the ultrasound picture of myomatous nodes. Ultrasound criteria of hyperplastic processes of the endometrium. Possibilities and expediency of using dopplerometry and blood flow visualization of myomatous nodes and uterine vessels.

*Topic 3.* Ultrasound diagnosis of benign tumors of the ovaries. Ultrasound criteria of the benign ovarian tumors. Differential ultrasound diagnosis of neoplasms of uterine appendages.

*Topic 4.* Ultrasound diagnosis of emergency conditions in gynecological practice. Ultrasound signs and criteria of different forms of ectopic pregnancy. Doppler imaging during ectopic pregnancy. Ultrasound picture of ovarian apoplexy and torsion of the ovarian tumor. Ultrasound signs of the Pelvioperitonitis. Ultrasound criteria of the necrosis of myomatous node.

*Topic 5.* Features of ultrasound diagnostics in patients with infertility. Methodology of folliculometry and assessment of ovarian reserve. Characteristic of multifollicular ultrasound picture of ovaries in case of polycystic ovary syndrome. Ultrasound signs of Adenomyosis, endometrioid ovarian cysts. Ultrasound picture of distal tubal occlusion (hydrosalpinx).

*Topic 6.* Ultrasound diagnostics in obstetrics. Characteristics of ultrasound diagnostics of pregnancy of different terms. Ultrasound evaluation of the capacity of the scar of uterus. Assessment of the condition of the feto-placental complex.

*Topic 7.* Ultrasound assessment of markers of congenital pathology during pregnancy screenings. Ultrasound characteristics and assessment of markers of congenital pathology during the first (11-14 weeks) and second screening (19-22 weeks) of pregnancy, third screening (30-32 weeks).

*Topic 8.* Ultrasound evaluation of the intrauterine state of the fetus. Ultrasound parameters for assessing fetal maturity. Biophysical profile of the fetus, evaluation of the amniotic fluid index, placentometry. Peculiarities of fetometry after 36 weeks of pregnancy. Dopplerometry in obstetrics.

*List of recommended literature:*

*Basic:*

1. Williams Manual of Obstetrics (24th Ed) F. G. Cunningham, K. J. Leveno, S. L. Bloom, C. Y. Spong, J. S. Dashe, B. L. Hoffman, B. M. Casey, J. S. Sheffield, McGraw-Hill Education/Medical. – 2014. – 1377 pp.
2. Textbook of Gynecology (6th Ed) Dutta DC., Hiralal Konar (Ed.). – JAYPEE BROTHERS MEDICAL PUBLISHERS (P) LTD, 2013. – 702 pp.
3. DC Duttas Textbook of Obstetrics including Perinatology and Contraception (8th Ed.) Dutta DC., Hiralal Konar (Ed.). – JAYPEE BROTHERS MEDICAL PUBLISHERS (P) LTD, 2015. – 782 pp.
4. Llewellyn-Jones Fundamentals of Obstetrics and Gynaecology (10th Ed). Jeremy Oats, Suzanne Abraham. Elsevier. 2016. – 384 pp.
5. Bender Atik R, Christiansen OB, Elson J, Kolte AM, Lewis S. et al. ESHRE guideline: recurrent pregnancy loss. Hum Reprod Open 2018; doi: 10.1093/hropen/hoy004. PMID: 31486805; PMCID: PMC6276652.
6. Di Spiezio Sardo A, Campo R, et al. The comprehensiveness of the ESHRE/ESGE classification of female genital tract congenital anomalies: a systematic review of cases not classified by the AFS system. Human Reproduction 2015; May; 30(5):1046–1058. DOI: 10.1093/humrep/dev061
7. Pfeifer S, Butts S, Dumesic D, et al. Uterine septum: a guideline. Fertil Steril. 2016;106(3):530-40. doi:10.1016/j.fertnstert.2016.05.014.
8. Normative documents of the Ministry of Health of Ukraine on obstetrics and gynecology:
  - Order of the Ministry of Health of Ukraine No. 340 dated November 28, 1997. "On the improvement of the organization of the radiation diagnostics and radiation therapy service".
  - Order of the Ministry of Health of Ukraine No. 417 dated July 15, 2011. "About the organization of ambulatory obstetric and gynecological care in Ukraine".
  - Order of the Ministry of Health of Ukraine No. 319 dated 04/06/2016 "On the approval and implementation of medical and technological documents on the standardization of medical care for genital endometriosis".
  - Order of the Ministry of Health of Ukraine No. 353 of April 13, 2016 "On the approval and implementation of medical and technological documents on the standardization of medical care for abnormal uterine bleeding."
  - Order of the Ministry of Health of Ukraine No. 869 dated 05/05/2021 "On the approval of the unified clinical protocol of primary, secondary (specialized), tertiary (highly specialized) medical care "Endometrial hyperplasia".
  - Order of the Ministry of Health of Ukraine No. 676 dated December 31, 2004 "On approval of clinical protocols for obstetric and gynecological care."

*Additionally:*

1. The FIGO Textbook of Pregnancy Hypertension. An evidence-based guide to monitoring, prevention and management. L. A. Magee, P. Daddelen, W. Stones, M. Mathai (Eds), The Global Library of Women's Medicine. – 2016. – 456 pp.
2. Obstetrics: Normal and Problem Pregnancies, 7th Edition S. Gabbe, J. R. Niebyl, J. L. Simpson, M. B. Landon, H. L. Galan, E. R. M. Jauniaux, D. A. Driscoll, V. Berghella and W. A. Grobman, Elsevier. – 2017. – 1320 pp.
3. Ranaee M., Yazdani Sh., Modarres S.R., Rajabi-Moghaddam M. Two cases of clear cell ovarian cancer in young patients. Caspian J Intern Med. 2016;7(3):228-31.
4. Webb P.M., Jordan S.J. Epidemiology of epithelial ovarian cancer. Best Pract Res Clin Obstet Gynaecol. 2017;41:3-14. DOI: 10.1016/j.bpobgyn.2016.08.006.
5. Brun J.L., Fritel X., Aubard Y. et al; Collège National des Gynécologues Obstétriciens Français. Management of presumed benign ovarian tumors: updated French guidelines. Eur J Obstet Gynecol Reprod Biol. 2014;183:52-8. DOI: 10.1016/j.ejogrb.2014.10.012.
6. Buys S.S., Partridge E., Black A. et al; PLCO Project Team. Effect of screening on ovarian cancer mortality: the Prostate, Lung, Colorectal and Ovarian (PLCO) Cancer Screening Randomized Controlled Trial. JAMA. 2011;305(22):2295-303. DOI: 10.1001/jama.2011.766.
7. Gilbert L., Basso O., Sampalis J. et al; DOvE Study Group. Assessment of symptomatic women for early diagnosis of ovarian cancer: results from the prospective DOvE pilot project. Lancet Oncol. 2012;13(3):285-91. DOI: 10.1016/S1470-2045(11)70333-3.

*Internet sources:*

1. Practical recommendations of the International Society of Ultrasound in Obstetrics and Gynecology (ISUOG) for performing ultrasound examinations of the fetus:[isuog.org/ISUOGGuidelines](http://isuog.org/ISUOGGuidelines)
2. Ultrasound research protocols. Internet resource: Ukrainian portal of ultrasound diagnostics:[ultrasound.net.ua](http://ultrasound.net.ua)<https://www.cochrane.org/>
3. <https://www.ebcog.org/>
4. <https://www.acog.org/>
5. <https://www.uptodate.com>
6. <https://online.lexi.com/>
7. <https://www.ncbi.nlm.nih.gov/>
8. <https://pubmed.ncbi.nlm.nih.gov/>
9. <https://www.thelancet.com/>
10. <https://www.rcog.org.uk/>
11. <https://www.npwh.org/>

## ASSESSMENT

**Current control:** oral examination, assessment of practical skills, solving situational clinical problems, assessment of activity in the classroom.

**Final control:** Credit

### Evaluation of the current educational activity in a practical lesson :

1. Evaluation of theoretical knowledge on the subject of the lesson:
  - methods: survey, solving a situational clinical problem
  - the maximum score is 5, the minimum score is 3, the unsatisfactory score IS 2
2. Evaluation of practical skills and manipulations on the subject of the lesson:
  - methods: assessment of the correctness of the performance of practical skills
  - the maximum score is 5, the minimum score is 3, the unsatisfactory score IS 2
3. Evaluation of work with patients on the subject of the lesson:
  - methods: assessment of: a) communication skills of communicating with the patient, b) the correctness of prescribing and evaluating laboratory and instrumental studies, c) compliance with the differential diagnosis algorithm, d) substantiation of the clinical diagnosis, e) drawing up a treatment plan;
  - the maximum score is 5, the minimum score is 3, the unsatisfactory score IS 2

The grade for one practical session is the arithmetic average of all components and can only have a whole value (5, 4, 3, 2), which is rounded according to the statistical method.

### Current evaluation criteria in practical training

«5»	The student is fluent in the material, takes an active part in discussing and solving a situational clinical problem, confidently demonstrates practical skills during the examination of a sick child and interpretation of clinical, laboratory and instrumental studies, expresses his opinion on the topic, demonstrates clinical thinking.
«4»	The student is well versed in the material, participates in the discussion and solution of situational clinical problems, demonstrates practical skills during the examination of a sick child and interpretation of clinical, laboratory and instrumental studies with some errors, expresses his opinion on the topic, demonstrates clinical thinking.
«3»	The student does not have enough material, uncertainly participates in the discussion and solution of the situational clinical problem, demonstrates practical skills during the examination of a sick child and interpretation of clinical, laboratory and instrumental studies with significant errors.
«2»	The student does not have the material, does not participate in the discussion and solution of the situational clinical problem, does not demonstrate practical

skills during the examination of a sick child and the interpretation of clinical, laboratory and instrumental studies.
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Credit is given to the student who completed all tasks of the work program of the academic discipline, took an active part in practical classes, completed and defended an individual assignment and has an average current grade of at least 3.0 and has no academic debt. Assessment is carried out: at the last lesson before the beginning of the examination session - with the tape system of learning, at the last lesson - with the cycle system of learning. The credit score is the arithmetic mean of all components according to the traditional four-point scale and has a value that is rounded according to the statistics method with two decimal places after the decimal point.

## **INDEPENDENT WORK OF THE STUDENTS**

Independent work involves preparation for each practical lesson, writing essays on topics of missed lessons.

## **EDUCATIONAL DISCIPLINE POLICY**

### *Deadlines and Rescheduling Policy:*

- Absences of classes for non-respectable reasons are worked out according to the schedule of the teacher on duty.
- Absences due to valid reasons are processed according to an individual schedule with the permission of the dean's office.

### *Academic Integrity Policy:*

Students must observe academic integrity, namely:

- independent performance of all types of work, tasks, forms of control provided for by the work program of this educational discipline;
- references to sources of information in the case of using ideas, developments, statements, information;
- compliance with the legislation on copyright and related rights;
- provision of reliable information about the results of one's own educational (scientific) activity, used research methods and sources of information.

Unacceptable in educational activities for participants of the educational process are:

- using family or official ties to obtain a positive or higher grade during any form of control of learning outcomes or academic performance;
- use of prohibited auxiliary materials or technical means (cheat sheets, notes, micro-earphones, telephones, smartphones, tablets, etc.) during control measures;
- passing procedures for control of training results by fake persons.

For violation of academic integrity, students may be held to the following academic responsibility:

- decreasing the results of assessment of control work, assessment in class, credit, etc.;
- retaking the assessment (control work, credit, etc.);
- appointment of additional control measures (additional individual tasks, control works, tests, etc.);
- conducting an additional inspection of other works authored by the offender.

*Attendance and Tardiness Policy:*

Uniform: a medical gown that completely covers the outer clothing, or medical pajamas, a cap, a mask, and a change of shoes.

Equipment: notebook, pen.

State of health: students suffering from acute infectious diseases, including respiratory diseases, are not allowed to attend classes.

A student who is late for class can attend it, but if the teacher has put "nb" in the journal, he must complete it in the general order.

*Use of mobile devices:*

Mobile devices may be used by students with the permission of the instructor if they are needed for the assignment.

*Behavior in the audience:*

The behavior of students and teachers in the classrooms must be working and calm, strictly comply with the rules established by the Regulations on academic integrity and ethics of academic relations at Odessa National Medical University, in accordance with the Code of Academic Ethics and University Community Relations of Odessa National Medical University, Regulations on Prevention and detection of academic plagiarism in the research and educational work of students of higher education, scientists and teachers of Odessa National Medical University.