

SYLLABUS OF THE COURSE

1. General information about the discipline

Full name of the discipline	Functional diagnostics in obstetrics and gynecology
The full official name of the institution of higher education	Sumy State University
Full name of the structural unit	Medical Institute. Department of Obstetrics, Gynecology and Family Planning
Developer (s)	Nikitina Iryna Mykolayvna
Level of higher education	Second level of higher education, NQF - 7th level, QF-LLL - 7th level, FQ-EHEA - second cycle
Semester of study of academic discipline	18 weeks during the 9th-10th semester
The scope of the discipline	The volume is 5 ECTS credits, 150 hours, of which contact work with the teacher (36 hours of practical classes), 114 hours of independent work of students
Language of instruction	Ukrainian

2. The place of the discipline in the educational program

Discipline status	Elective course for the educational program "Medicine"
Prerequisites for studying the discipline	Normal anatomy, normal physiology, pathological physiology, pathological anatomy, operative surgery and topographic anatomy, radiology
Additional conditions	There are no additional conditions
Limitation	There are no restrictions

3. The purpose of the discipline

Study of the main methods of functional diagnostics used in obstetric and gynecological practice. Teach the right choice of diagnostic method from a large number of different types of examinations in obstetrics and gynecology, which are necessary for the patient and are essential for the differentiation of diseases.

4. The content of the discipline

<p>Topic 1 Modern methods of examination of gynecological patients. Laboratory research methods.</p> <p>Providing information on the relevance of the topic. Features of gynecological, reproductive history, objective examination of a gynecological patient. The main methods of gynecological examination of women (examination in mirrors, bimanual, rectal examination). Instrumental research methods in gynecology. Oncocytological examination. Technique of taking a smear for oncocytological examination. Types of smears. Bacterioscopic and bacteriological examination. Technique of taking a smear for microscopic examination. Degrees of purity of the vagina. Smear on the hormonal mirror.</p>
<p>Topic 2 Hormonal research (blood hormones, tests of functional diagnostics).</p> <p>Determination of hormones in the blood: FSH, LH, prolactin, progesterone, estradiol, total testosterone, free testosterone, Methods of functional diagnosis. Functional diagnostic tests (symptoms of pupil, fern, mucus tension, basal temperature measurement). Basal temperature graph analysis. Hormone tests. Test with progestogens. Test with estrogens and progestogens. Test with dexamethasone. Cytological examination of vaginal smears: maturation index, karyopyknotic index, eosinophilic index.</p>
<p>Topic 3 Instrumental research methods in gynecology. Probing of the uterine cavity. Biopsy. Puncture of the posterior arch.</p> <p>The technique of probing the uterus to determine the patency of the cervical canal, the position and direction of the uterine cavity, its length and the state of relief of the uterine wall. Indications and contraindications to probing. The use of probing not only for diagnostic purposes, but also before some operations (scraping the walls of the uterine cavity, amputation of the cervix, etc.). Biopsy - excision and microscopic examination of a piece of tissue for diagnostic purposes. Tools for biopsy. Biopsy technique. Puncture of the abdominal cavity through the posterior arch. Indications, contraindications, tools, techniques for the diagnosis of ectopic pregnancy, ovarian apoplexy, pelvioperitonitis. Methods of anesthesia.</p>
<p>Topic 4 Instrumental research methods in gynecology. Diagnostic scraping of the uterine cavity.</p> <p>Instrumental removal of the functional layer of the uterine mucosa together with the pathological formation. Diagnostic role in uterine bleeding, dysfunctional disorders of the menstrual cycle, suspicion of malignant tumors of the uterus, placental and decidual polyps, hyperplasia and polyposis of the uterine mucosa, incomplete miscarriage, etc. Tools for diagnostic scraping of the uterine cavity. Histological examination of endometrial scraping. Indications, contraindications, technique of the procedure. Adherence to the rules of asepsis and antiseptics. General or local anesthesia technique. Complications, diagnosis and prevention. Fractional diagnostic scraping of the uterine cavity - instrumental removal of the mucous membrane of the cervix and uterine cavity</p>
<p>Topic 5 X-ray methods of research. X-ray of the Turkish saddle, hysterosalpingography.</p> <p>Hysterosalpingography is a method of examining the uterine cavity and fallopian tubes using radiography. This method is used to determine the patency of the fallopian tubes, malformations of the uterus, endometriosis, tuberculosis of the fallopian tubes, the presence of submucosal fibroids, synechiae, polyps. Instruments and contrast agents used for hysterosalpingography. Technique of hysterosalpingography. The effectiveness of the method. Advantages and disadvantages of the method. Indications and contraindications to use. Possible complications. Indications for X-ray of the Turkish saddle in gynecology.</p>
<p>Topic 6 X-ray methods of research. Gynecography (pneumopelviography). Angiohysterosalpingography Lymphography. Phlebography.</p> <p>Gynecography (pneumopelviography) - a method used for the diagnosis and differential diagnosis of tumors of the pelvic organs, the prevalence of tumors in malignant neoplasms of the genitals, for the diagnosis of abnormalities in the development of the genitals. The effectiveness</p>

of the method. Advantages and disadvantages of the method. Indications and contraindications to use. Possible complications.

Angiohystero-salpingography - simultaneous contrast of the pelvic vessels, uterine cavity and fallopian tubes. The effectiveness of the method. Advantages and disadvantages of the method. Indications and contraindications to use.

Lymphography - determining the state of the lymphatic system through the use of X-ray contrast agents. The effectiveness of the method. Advantages and disadvantages of the method. Indications and contraindications to use.

Phlebography - determination of the state of the venous network of the pelvis by using contrast agents. The effectiveness of the method. Advantages and disadvantages of the method. Indications and contraindications to use.

Topic 7 Hardware research methods in gynecology. Ultrasound of the uterus and appendages.

Ultrasonography in gynecology is a method based on the ability of tissues of different densities to reflect or absorb ultrasonic energy in different ways. Modern ultrasound equipment allows you to examine the pelvic organs with different sensors: abdominal, vaginal, rectal.

Ultrasound in gynecological practice is used to differentiate tumors of the uterus and ovaries, the diagnosis of ectopic pregnancy. The advantage of the method is its high informativeness, correct diagnosis, ease of study and no contraindications. Disadvantages of the method. Features of preparation of the patient for inspection.

Topic 8 Hardware research methods in gynecology. Computed tomography

Computed tomography is a method of obtaining a cross-sectional image of the body without overlapping objects. Diagnosis by computed tomography is based on radiological symptoms: location, shape, size, density of tumors, as well as compression or germination of the surrounding tissues, the state of the lymph nodes. The principle of computed tomography. The effectiveness of the method. Advantages and disadvantages of the method. Indications and contraindications to use.

Topic 9 Endoscopic research methods in gynecology.

Examination of the cavity of the internal organs by examining them with the help of special devices with a lighting device. In gynecology, laparoscopy, hysteroscopy, culdoscopy, colposcopy, cystoscopy, rectoromanoscopy, diaphonoscopy, etc. are used. The effectiveness of the method. Advantages and disadvantages of the method. Indications and contraindications to use.

Topic 10 Endoscopic research methods in gynecology. Colposcopy. Cervicoscopy

Colposcopy - examination of the cervix and vaginal mucosa using an optical colposcope. Colposcopy can detect changes in the epithelium of the cervix, precancerous conditions, select the area of tissue for biopsy, as well as observe the dynamics of changes in certain methods of treatment of the cervix and vagina. Necessary tools and equipment for colposcopy. Technique of simple and advanced colposcopy. Schiller's test. The concept of adequate and inadequate colposcopic picture. Colposcopic signs LSIL, HSIL. Advantages and disadvantages of the method. Indications and contraindications to use.

Cervicoscopy - examination of the cervical canal with a cervicoscope through a colposcope. Advantages and disadvantages of the method. Indications and contraindications to use.

Topic 11 Endoscopic research methods in gynecology. Hysteroscopy.

Method of examination of the uterine cavity using a hysteroscope. Indications for hysteroscopy. Office hysteroscopy. Hysteroresectoscopy. Instruments and equipment for hysteroscopy. Methods of hysteroscopy, methods of effective anesthesia, technique. Advantages and disadvantages of the method. Monitoring the effectiveness of treatment before surgery and manipulation of the uterine cavity. Features of hysteroscopy for dysfunctional uterine bleeding, bleeding during menopause, suspected uterine fibroids, adenomyosis and endometrial cancer, uterine abnormalities.

Polypectomy, excision of septa and synechiae in the uterine cavity, removal of foreign bodies and intrauterine spirals from the uterine cavity using hysteroresectoscopy. Possible complications

during hysteroscopy. Contraindications to hysteroscopy: general infectious diseases, severe condition of the patient with diseases of the cardiovascular system, parenchymal organs, III-IV degree of purity of vaginal secretions, acute inflammatory diseases of the female genital organs.

Topic 12 Endoscopic research methods in gynecology. Laparoscopy. Culdoscopy.

Examination of the abdominal cavity and pelvis with optical instruments inserted through an incision of the anterior abdominal wall. When using an incision through the posterior arch, culdoscopy is used. Laparoscopy in the differential diagnosis of uterine tumors and its appendages, with suspected scleropolycystosis, internal endometriosis, abnormalities of the internal genital organs, tuberculosis, ectopic pregnancy, as well as to clarify the causes of infertility and pain of unknown etiology. Contraindications to laparoscopy. Features of preparation for laparoscopic surgery. Necessary tools and equipment. Anesthesia and technique of laparoscopic interventions. Complications during laparoscopy and features of diagnosis of vascular injuries of the anterior abdominal wall, omentum, mesentery and intestinal wall are possible. Technique of culdoscopy. Indications, contraindications.

Topic 13 Methods of laboratory diagnostics in obstetric practice. Biochemical screening programs
General clinical and biochemical analyzes. Hormonal diagnosis of the I, II and III trimesters of pregnancy. Examination for perinatal infections. Determination of blood group of a pregnant woman, titer of antirhesus antibodies. Hormonal mirror. Smear for amniotic fluid leakage. Smears on the microflora. Fence technique. Biochemical markers of congenital malformations (chorionic gonadotropin, alpha-fetoprotein, estriol) at different stages of pregnancy. Their diagnostic value, median levels of these indicators.

Topic 14 Prenatal ultrasound diagnosis of congenital malformations of the fetus

Non-invasive methods of prenatal diagnosis. Ultrasound examination, principles, indications, terms of carrying out, efficiency of diagnostics of various diseases of a fruit, an assessment of a condition of a placenta, Strategy of ultrasonic prenatal diagnostics. Terms of ultrasound screening
Modern possibilities of prenatal ultrasound diagnosis of congenital malformations. Optimal timing of ultrasound screening in obstetrics.

Ultrasound fetoplacentometry. Doppler blood flow in the uterine artery, umbilical artery, fetal aorta, midbrain artery. Diagnostic criteria for blood flow disorders. Critical parameters of blood flow. Tactics of managing a pregnant woman in violation of uteroplacental and fetal blood flow. Indications for immediate delivery.

Determination of the biophysical profile of the fetus.

Topic 15 Cardiotocography

Fetal monitoring is a method of studying fetal heart rate and uterine tone. Indications, terms and technique of CTG. Equipment for CTG. The effectiveness of the technique. Evaluation of results.

Topic 16 Invasive methods of prenatal diagnosis.

General characteristics. indications and contraindications Methods of invasive prenatal diagnosis, timing of their implementation. Indications and contraindications for invasive prenatal diagnosis, possible complications due to invasive diagnosis. Conditions for invasive diagnosis.

Topic 17 Methodology of invasive prenatal research methods

Indications, contraindications, conditions and technique of amniocentesis. Study of amniotic fluid - the level of alpha-fetoprotein, sphingomyelin, study of the optical density of amniotic fluid, the level of bilirubin.

Methods of chorion biopsy, cordocentesis, placentocentesis, amniocentesis. Study of chorionic villi cells, placenta (direct method, cultivation). Cultivation of amniocytes. Cordocentesis. Indications, contraindications, conditions and technique of cordocentesis. The effectiveness of the technique. Toolkit. Complications during cordocentesis. Analysis of fetal umbilical cord blood.

Topic 18 Practice-oriented differentiated test

The test will include questions for the entire course "Functional diagnostic methods in obstetrics and gynecology", including: theoretical questions, questions for test control. Assessment of the course. Summing up.

5. Expected learning outcomes of the discipline

After successful study of the discipline, the applicant will be able to:

LO1	Be able to collect medical information about the patient and analyze clinical data (skills of interviewing the patient).
LO2	Master the skills of functional diagnostic methods in obstetrics and gynecology.
LO3	Be able to choose the method of functional examination depending on the pathology for the differential diagnosis of diseases in obstetrics and gynecology
LO4	Interpret, analyze and summarize the data obtained by applying functional diagnostic methods in accordance with the goal, objectives and criteria for achieving the expected results in the study of pathology.
LO5	Make informed decisions about the choice of method of functional diagnostics.
LO6	Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination, be able to work in a team, use professional vocabulary in practice.

7. Types of training sessions and educational activities

7.1 Types of training sessions

Topic 1. Modern methods of examination of gynecological patients. Laboratory research methods.

Pr1. "Modern methods of examination of gynecological patients. Laboratory methods of research". (daily)

Providing information on the relevance of the topic. Features of gynecological, reproductive history, objective examination of a gynecological patient. The main methods of gynecological examination of women (examination in mirrors, bimanual, rectal examination). Instrumental research methods in gynecology. Oncocytological examination. Technique of taking a smear for oncocytological examination. Types of smears.

Bacterioscopic and bacteriological examination. Technique of taking a smear for microscopic examination. Degrees of purity of the vagina. Smear on the hormonal mirror. The study of this topic involves theoretical work in the classroom, presentation and discussion.

Topic 2. Hormonal research (blood hormones, tests of functional diagnostics).

Pr2 "Hormonal research (blood hormones, tests of functional diagnostics)". (daily)

Determination of hormones in the blood: FSH, LH, prolactin, progesterone, estradiol, total testosterone, free testosterone, Methods of functional diagnosis. Functional diagnostic tests (symptoms of pupil, fern, mucus tension, basal temperature measurement). Basal temperature graph analysis. Hormone tests. Test with progestogens. Test with estrogens and progestogens. Test with dexamethasone. Cytological examination of vaginal smears: maturation index, karyopyknotic index, eosinophilic index.

Topic 3. Instrumental research methods in gynecology. Probing of the uterine cavity. Biopsy. Puncture of the posterior arch.

Pr3 "Instrumental methods of research in gynecology. Probing of the uterine cavity. Biopsy. Puncture of the posterior arch." (daily)

The technique of probing the uterus to determine the patency of the cervical canal, the position and direction of the uterine cavity, its length and the state of relief of the uterine wall. Indications and contraindications to probing. The use of probing not only for diagnostic purposes, but also before some operations (scraping the walls of the uterine cavity, amputation of the cervix, etc.). Biopsy - excision and microscopic examination of a piece of tissue for diagnostic purposes. Tools for biopsy. Biopsy technique. Puncture of the abdominal cavity through the posterior arch. Indications, contraindications, tools, techniques for the diagnosis of ectopic pregnancy, ovarian apoplexy, pelvioperitonitis. Methods of anesthesia. The study of this topic involves theoretical work in the classroom, solving situational problems, testing, work in a simulation center (on the phantom of testing the skills of probing the uterine cavity, puncture of the posterior arch).

Topic 4. Instrumental research methods in gynecology. Diagnostic scraping of the uterine cavity.

Pr4 "Instrumental research methods in gynecology. Diagnostic scraping of the uterine cavity". (daily)

Instrumental removal of the functional layer of the uterine mucosa together with the pathological formation. Diagnostic role in uterine bleeding, dysfunctional disorders of the menstrual cycle, suspected malignant tumors of the uterus, placental and decidual polyps, hyperplasia and polyposis of the uterine mucosa, incomplete miscarriage. Tools for diagnostic scraping of the uterine cavity. Histological examination of endometrial scraping. Indications, contraindications, technique of the procedure. Adherence to the rules of asepsis, antiseptics. General or local anesthesia technique. Complications, diagnosis, prevention. Fractional diagnostic scraping of the uterine cavity - instrumental removal of the cervical mucosa and uterine cavity. The study of this topic involves theoretical work in the classroom, work in the simulation center (on the phantom of the skills of diagnostic scraping of the uterine cavity).

Topic 5. X-ray methods of research. X-ray of the Turkish saddle, hysterosalpingography.

Pr5 "X-ray methods of research. X-ray of the Turkish saddle, hysterosalpingography". (daily)

Hysterosalpingography is a method of examining the uterine cavity and fallopian tubes using radiography. This method is used to determine the patency of the fallopian tubes, malformations of the uterus, endometriosis, tuberculosis of the fallopian tubes, the presence of submucosal fibroids, synechiae, polyps. Instruments and contrast agents used for hysterosalpingography. Technique of hysterosalpingography.

The effectiveness of the method. Advantages and disadvantages of the method. Indications and contraindications to use. Possible complications. Indications for X-ray of the Turkish saddle in gynecology. The study of this topic involves theoretical work in the classroom, work in the X-ray room of the medical institution (according to the agreement on cooperation with the University) in the absence of quarantine restrictions. Master the skills of reading radiographs.

Topic 6. X-ray research methods. Gynecography (pneumopelviography). Angiohysterosalpingography Lymphography. Phlebography.

Pr6 "X-ray research methods. Gynecography (pneumopelviography). Angiohysterosalpingography Lymphography. Phlebography". (daily)

Gynecography (pneumopelviography) - a method used for the diagnosis and differential diagnosis of tumors of the pelvic organs, the prevalence of tumors in malignant neoplasms of the genitals, for the diagnosis of abnormalities in the development of the genitals. The effectiveness of the method. Advantages and disadvantages of the method. Indications and contraindications to use. Possible complications.

Angiohystero-salpingography - simultaneous contrast of the pelvic vessels, uterine cavity and fallopian tubes. The effectiveness of the method. Advantages and disadvantages of the method. Indications and contraindications to use. Lymphography - determining the state of the lymphatic system through the use of X-ray contrast agents. The effectiveness of the method. Advantages and disadvantages of the method. Indications and contraindications to use. Phlebography - determination of the state of the venous network of the pelvis by using contrast agents.

The effectiveness of the method. Advantages and disadvantages of the method. Indications and contraindications to use. The study of this topic involves theoretical work in the classroom, work in the X-ray room of the medical institution (according to the agreement on cooperation with the University) in the absence of quarantine restrictions. Master the skills of reading radiographs.

Topic 7. Hardware research methods in gynecology. Ultrasound of the uterus and appendages

Pr7 "Hardware research methods in gynecology. Ultrasound of the uterus and appendages". (daily)

Ultrasonography in gynecology is a method based on the ability of tissues of different densities to reflect or absorb ultrasound in different ways. Modern ultrasound equipment allows you to examine the pelvic organs with different sensors: abdominal, vaginal, rectal. Ultrasound in gynecological practice is used to differentiate tumors of the uterus and ovaries, the diagnosis of ectopic pregnancy. The advantage of the method is its high informativeness, correct diagnosis, ease of study and no contraindications. Disadvantages of the method. Features of preparation of the patient for inspection. The study of this topic involves theoretical work in the classroom, work in the office of ultrasound diagnostics of the medical institution (according to the agreement on cooperation with the University) in the absence of quarantine restrictions.

Topic 8. Hardware research methods in gynecology. Computed tomography

Topic 8 "Hardware research methods in gynecology. Computed tomography". (daily)

Computed tomography is a method of obtaining a cross-sectional image of the body without overlapping objects. Diagnosis by computed tomography is based on radiological symptoms: location, shape, size, density of tumors, as well as compression or germination of the surrounding tissues, the state of the lymph nodes. The principle of computed tomography. The effectiveness of the method. Advantages and disadvantages of the method. Indications and contraindications to use. The study of this topic involves theoretical work in the classroom, work in the office of computed tomography at the University Clinic. Deciphering computer tomograms.

Topic 9. Endoscopic research methods in gynecology

Pr9 "Endoscopic research methods in gynecology". (daily)

Examination of the cavity of the internal organs by examining them with the help of special devices with a lighting device. In gynecology, laparoscopy, hysteroscopy, culdoscopy, colposcopy, cystoscopy, rectoromanoscopy, diaphonoscopy, etc. are used. The effectiveness of the method. Advantages and disadvantages of the method. Indications and contraindications to use. The study of this topic involves theoretical work in the classroom, work in the simulation center (simulator office hysteroscopy) work in the operating room of the medical institution (according to the cooperation agreement between the clinical medical institution and the University) in the absence of quarantine restrictions.

Topic 10. Endoscopic research methods in gynecology. Colposcopy. Cervicoscopy

Pr10 "Endoscopic research methods in gynecology. Colposcopy. Cervicoscopy". (daily)

Colposcopy - examination of the cervix and vaginal mucosa using an optical colposcope. Colposcopy can detect changes in the epithelium of the cervix, precancerous conditions, select the area of tissue for biopsy, as well as observe the dynamics of changes in certain methods of treatment of the cervix and vagina. Necessary tools and equipment for colposcopy. Technique of simple and advanced colposcopy. Schiller's test. The concept of adequate and inadequate colposcopic picture. Colposcopic signs LSIL, HSIL. Advantages and disadvantages of the method. Indications and contraindications to use. Cervicoscopy - examination of the cervical canal with a cervicoscope through a colposcope. Advantages and disadvantages of the method. Indications and contraindications to use. The study of this topic involves theoretical work in the classroom, work with a colposcope in the office of cervical pathology of the medical institution (according to the agreement on cooperation between the clinical medical institution and the University) in the absence of quarantine restrictions. Study of colpophotograms.

Topic 11. Endoscopic research methods in gynecology. Hysteroscopy

Pr11 "Endoscopic research methods in gynecology. Hysteroscopy". (daily)

Method of examination of the uterine cavity using a hysteroscope. Indications for hysteroscopy. Office hysteroscopy. Hysteroscopy. Instruments and equipment for hysteroscopy. Methods of hysteroscopy, methods of effective anesthesia, technique. Advantages and disadvantages of the method. Monitoring the effectiveness of treatment before surgery and manipulation of the uterine cavity.

Features of hysteroscopy for dysfunctional uterine bleeding, bleeding during menopause, suspected uterine fibroids, adenomyosis and endometrial cancer, uterine abnormalities. Polypectomy, excision of septa and synechiae in the uterine cavity, removal of foreign bodies and intrauterine spirals from the uterine cavity using hysteroscopy. Possible complications during hysteroscopy.

Contraindications to hysteroscopy: general infectious diseases, severe condition of the patient with diseases of the cardiovascular system, parenchymal organs, III-IV degree of purity of vaginal secretions, acute inflammatory diseases of the female genital organs. The study of this topic involves theoretical work in the classroom, work in the simulation center (simulator office hysteroscopy) work in the operating room of the medical institution (according to the cooperation agreement between the clinical medical institution and the University) in the absence of quarantine restrictions.

Topic 12. Endoscopic research methods in gynecology. Laparoscopy. Culdoscopy

Pr12 "Endoscopic research methods in gynecology. Laparoscopy. Culdoscopy". (daily)

Examination of the abdominal cavity and pelvis with optical instruments inserted through an incision of the anterior abdominal wall. When using an incision through the posterior arch, culdoscopy is used. Laparoscopy in the differential diagnosis of uterine tumors and its appendages, with suspected scleropolycystosis, internal endometriosis, abnormalities of the internal genital organs, tuberculosis, ectopic pregnancy, as well as to clarify the causes of infertility and pain of unknown etiology. Contraindications to laparoscopy. Features of preparation for laparoscopic surgery. Necessary tools and equipment. Anesthesia and technique of laparoscopic interventions. Complications during laparoscopy and features of diagnosis of vascular injuries of the anterior abdominal wall, omentum, mesentery and intestinal wall are possible. Technique of culdoscopy.

Indications, contraindications. The study of this topic involves theoretical work in the classroom, work in the endoscopic center of the university (training skills on a laparoscopic simulator), work in the operating room of the medical institution (according to the cooperation agreement between the clinical medical institution and the University) in the absence of quarantine restrictions.

Topic 13. Methods of laboratory diagnostics in obstetric practice. Biochemical screening programs

Pr13 "Methods of laboratory diagnostics in obstetric practice. Biochemical screening programs". (daily)

General clinical and biochemical analyzes. Hormonal diagnosis of the I, II and III trimesters of pregnancy. Examination for perinatal infections. Determination of blood group of a pregnant woman, titer of antirhesus antibodies. Hormonal mirror. Smear for amniotic fluid leakage. Smears on the microflora. Fence technique.

Biochemical markers of congenital malformations (chorionic gonadotropin, alpha-fetoprotein, estriol) at different stages of pregnancy. Their diagnostic value, median levels of these indicators. The study of this topic involves theoretical work in the classroom, work in the clinical laboratory, the office of genetics on the basis of a medical institution (according to the agreement on cooperation with the University) in the absence of quarantine restrictions.

Topic 14. Prenatal ultrasound diagnosis of congenital malformations of the fetus

Pr14 "Prenatal ultrasound diagnosis of congenital malformations of the fetus." (daily)

Non-invasive methods of prenatal diagnosis. Ultrasound examination, principles, indications, timing, effectiveness of diagnosis of various diseases of the fetus, assessment of the placenta. Strategy of ultrasound prenatal diagnostics. Terms of ultrasound screening Modern possibilities of prenatal ultrasound diagnosis of congenital malformations. Optimal timing of ultrasound screening in obstetrics. Ultrasound fetoplacentometry.

Doppler blood flow in the uterine artery, umbilical artery, fetal aorta, midbrain artery. Diagnostic criteria for blood flow disorders. Critical parameters of blood flow. Tactics of managing a pregnant woman in violation of uteroplacental and fetal blood flow. Indications for immediate delivery. Determination of the biophysical profile of the fetus. The study of this topic involves theoretical work in the classroom, work in the office of ultrasound diagnostics of the medical institution (according to the agreement on cooperation with the University) in the absence of quarantine restrictions.

Topic 15. Cardiotocography

Pr15 "Cardiotocography" (daily).

Fetal monitoring is a method of studying fetal heart rate and uterine tone. Indications, terms and technique of CTG. Equipment for CTG. The effectiveness of the technique. Evaluation of results. The study of this topic involves theoretical work in the classroom, work in the departments of the medical institution (according to the agreement on cooperation with the University) in the absence of quarantine restrictions. Learn to evaluate the results of cardiotocography, to distinguish normal from pathology.

Topic 16. Invasive methods of prenatal diagnosis

Pr16 "Invasive methods of prenatal diagnosis" (day).

General characteristics. indications and contraindications Methods of invasive prenatal diagnosis, timing of their implementation. Indications and contraindications for invasive prenatal diagnosis, possible complications due to invasive diagnosis. Conditions for invasive diagnosis. The study of this topic involves theoretical work in the classroom, work in the departments of the medical institution (according to the agreement on cooperation with the University) in the absence of quarantine restrictions.

Topic 17. Methodology of invasive prenatal research methods

Pr17 Methodology of conducting invasive prenatal research methods "(full-time).

Indications, contraindications, conditions and technique of amniocentesis. Study of amniotic fluid - the level of alpha-fetoprotein, sphingomyelin, study of the optical density of amniotic fluid, the level of bilirubin. Methods of chorion biopsy, cordocentesis, placentocentesis, amniocentesis. Study of chorionic villi cells, placenta (direct method, cultivation). Cultivation of amniocytes. Cordocentesis.

Indications, contraindications, conditions and technique of cordocentesis. The effectiveness of the technique. Toolkit. Complications during cordocentesis. Analysis of fetal umbilical cord blood. The study of this topic involves theoretical work in the classroom, work in the departments of the medical institution (according to the agreement on cooperation with the University) in the absence of quarantine restrictions.

Topic 18. Practice-oriented differentiated test

Pr18 Practice-oriented differentiated test "(full-time).

The test will include questions for the entire course "Functional diagnostic methods in obstetrics and gynecology", including: theoretical questions, questions for test control. Assessment of the course. Summing up.

7.2 Types of educational activities

LA1	Self-study
LA2	Preparation for the final control
LA3	Preparation of multimedia presentations
LA4	Analysis of clinical cases
LA6	E-learning in systems (Zoom, Meet and on the platform MIX)
LA7	Preparation for practical classes
LA8	Watching educational films
LA9	Work with textbooks and relevant information sources
LA10	Testing
LA11	Practical work with the patient in the specialized departments of the perinatal center

8. Methods of teaching, learning

The discipline involves learning through:

TM1	Case-based learning (CBL).
TM2	Team-based learning (TBL).
TM3	Think-pair-share
TM4	Role play
TM5	Practice-oriented learning
TM6	Brain storm
TM7	Educational discussion / debate

Training combines group classes, individual tasks. Mandatory learning activities include working on specific clinical cases, role-plays, discussions, practical demonstrations and presentations. The discipline is taught using modern teaching methods (CBL, TBL), 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 it in practical situations. LC 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; interpersonal skills. LC 7. Ability to use information and communication technologies LC 8. Definiteness and persistence in terms of tasks and responsibilities. In addition, the applicant must master the skills of counseling, the basics of contraception, methods and techniques of contraceptive use, the general principles of family planning. Методи та критерії оцінювання

9.1. Evaluation criteria

Rating scale ECTS	Definition	Four-point national rating scale	Rating score scale
	Excellent performance with only a small number of errors	5 (Excellent)	$170 \leq RD \leq 200$
	Above average with a few errors	4 (good)	$140 \leq RD < 169$
	Not bad, but with many drawbacks	3 (satisfactorily)	$120 \leq RD < 139$
	Some more work required before the credit can be awarded	2 (fail)	$0 \leq RD < 119$

9.2 Methods of current formative assessment

FA1	Ppeer assessment
FA2	Teacher's instructions in the process of performing practical tasks
FA3	Development of situation tasks
FA5	Self-assessment of current testing
FA6	Testing

9.3 Methods of final summative assessment

SA1	Overall score for current course performance
SA2	Testing
SA3	Final control: differentiated test

Control measures:

7 semester		200 bals
SA1. Overall score for current course performance		120
	Oral questioning, solving situational problems, current testing	120
SA2. Final control: differentiated test		80
	Answer to theoretical questions (3x20)	60
	Testing	10
	Execution of a practical task	10

Control measures in a special case:

7 semester		200 балів
SA1. Overall score for current course performance		100
	In case of quarantine restrictions, evaluation of written works, interviews, clinical case solving are carried out remotely using the platform. Mix.sumdu.edu.ua, Zoom, Google meet.	100
SA2. Testing		10
	In case of quarantine restrictions, testing is performed remotely using the platform. Mix.sumdu.edu.ua.	10
SA3. Presentation protection		10
	In case of quarantine restrictions protection of the presentation is carried out remotely using the platform. Mix.sumdu.edu.ua, Zoom, Google meet.	10
SA4. Final control: differentiated test (according to the regulations)		80
	In case of quarantine restrictions the differentiated offset is carried out in a remote mode with application platform. Mix.sumdu.edu.ua, Zoom, Google meet.	80

Coursework:

When mastering the course materials, the student is assigned a maximum of 5 points for each practical lesson

(score is set in the traditional 4-point grading system). At the end of the training semester calculates the arithmetic mean of student performance. Maximum number of points which a student can get in practical classes during the semester - 120. Quantity student points are calculated by the formula: the arithmetic mean of the current performance multiply the scores by 24. For example, if the arithmetic mean of the current scores is 3.0, then $3 * 24 = 72$, this sum of points is the minimum for admission to the test, or the arithmetic mean current grades is 5.0, then $5 * 24 = 120$, this is the maximum amount of points that a student can score for

current performance. The same number of points is awarded for a presentation or abstract as for one current occupation. The student is admitted to the test subject to the requirements of the curriculum and y

if for the current educational activity he scored at least 72 points. Differentiated credit (final module control) is conducted according to the schedule at the end of the semester. Rating for the final module is exhibited in the traditional 4-point grading system with the subsequent translation into points, while, in general, the score "5" corresponds to 80 points, "4" - 64 points, "3" - 48 points,

"2" - 0 points. Among these points, the score for practical and theoretical training is 40% of the total amount of control points and corresponds to - "5" - 32 points, "4" - 25.6 points, "3" - 19.2 points "2" - 0

points. The score for testing is 20%, which corresponds to - "5" - 16 points, "4" - 12.8 points, "3" - 9.6 points "2" - 0 points. Final control is credited to the student if he scored at least 48

points out of 80. The total score for the discipline consists of the sum of points scored for current performance

and compiling the final module control.

10. Resource provision of the discipline

10.1 Засоби навчання

MTS1	Information and communication systems
MTS2	Library funds
MTS 3	Computers, computer systems and networks
MTS 4	Simulation center, which is equipped with a phantom of the female pelvis, training model for practicing practical skills: input and removal intrauterine contraception, insertion, and removal of the vaginal ring, models of individual organs: the uterus to practice methods of taking material for bacterioscopic examination, a set of tools: Cuzco mirror, mirror Simpson with a retractor, a set of brushes, ball forceps, uterine probe, glass.
MTS 5	Multimedia, video and sound reproduction, projection equipment (video cameras, projectors, screens, smart boards, etc.)
MTS 6	Software (to support distance learning)
MTS 7	KNP SOR "Regional Clinical Perinatal Center"

10.2 Information and educational and methodical support

Basic literature	
1	Obstetrics and gynecology: in two volumes: textbook. Vol.2 : Gynecology / V. I. Gryshchenko, M. O. Shcherbina, B. M. Ventskivskiy etc. ; edit. by: V.I. Gryshchenko, M.O. Shcherbina. — 2-nd edition. — K. : AUS Medicine Publishing, 2018. — 352 p
2	Williams Obstetrics, 25th Edition, Study Guide 25th Edition by Shivani Patel, Scott Roberts, Vanessa Rogers, Ashley Zink, Elaine Duryea, Jamie Morgan. USA. Mc. Graw Hill Education. 2021. 1340 p
3	William Gynecology, Fourth Edition by Barbara L. Hoffman, John O.Schorge, Lisa M. Halvorson, Cherine A. Hamid, Marlen M. Corton, Joseph I. Schaffer. Mc Graw-Hill Education. New York. 2020. 1253 p
Supporting literature	
1	Obstetrics and gynaecology in 2 books [Текст] : підручник. Book 2 : Gynaecology/ V. M. Zaporozhan, V. P. Mishchenko. — Odessa : The Odessa State Medical University, 2013. — 374 с.
2	Obstetrics & gynecology [Текст] : texbook for students of institutions of higher medical education of the III-IV levels of acc.(MPHU). V.2 : Gynecology / ed. by V.I. Gryshchenko. - in two volumes. - K. : AUS Medicine publishing, 2014
3	Te Linde's Operative Gynecology. Twelfth edition. Victoria L. Handa, Linda Van Li. Hardcover edition. New York. 2019. 339 p

