

NJSC Astana Medical University

Catalogue of elective subjects  
The level of education: residency  
2022-2023 academic year



1 №	2 a module / discipline	3 module component	4 cycle of discipline	5 Course Description	6 prerequisites	7 postrequisites	8 the department participating in the module	9 the number of credits (hours)	10 amount of hours				11 course (specialization / training trajectory)	12 responsible department for the module / discipline	13 Head of the department
									classroom 10%+38%	Independent clinical work under the guidance of a independent work of students 15%					
<b>1. Educational program: "7R01101 - Cardiology, including children's"</b>															
1	Modern diagnostic methods in pediatric cardiology		MI	Features of imaging methods in pediatric cardiology. Angiographic and nuclear methods of examination. The role of laboratory diagnostics. Patient management algorithms.	disciplines of the internship	Disciplines of magistracy and doctoral studies	Department of pediatric diseases with courses in cardiology, rheumatology and gastroenterology	8	115	89	36	3	Department of pediatric diseases with courses in cardiology, rheumatology and gastroenterology	Abdrakhmanova S.T.	
2	Innovative methods of rehabilitation of children with cardiovascular diseases		MI	Medico-social aspects of the rehabilitation of children with cardiovascular diseases. Features of the clinical condition. Organization of rehabilitation assistance at different stages.	disciplines of the internship	Disciplines of magistracy and doctoral studies	Department of pediatric diseases with courses in cardiology, rheumatology and gastroenterology	8	115	89	36	3	Department of pediatric diseases with courses in cardiology, rheumatology and gastroenterology	Abdrakhmanova S.T.	
3	Instrumental methods of diagnostics and treatment in cardiology	Ultrasound diagnostics in cardiology	MI	Study of the principles of non-invasive research methods and invasive methods of treatment in cardiology.	internship disciplines	disciplines Master's, PhD	Department of Cardiology	4	58	44	18	3	Department of Cardiology	Zhusupova G.K.	
		Electrophysiological methods of treatment in cardiology						4	58	44	18				
4	Emergency cardiology	Emergencies in cardiology	MI	Study of modern methods of treatment of emergency conditions in cardiology.	internship disciplines	disciplines Master's, PhD	Department of Cardiology	4	58	44	18	3	Department of Cardiology	Zhusupova G.K.	
		Rational pharmacotherapy in emergency cardiology						4	58	44	18				

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									classroom 10%+38%	independent clinical work under the guidance of a teacher 15%	independent work of students 15%	independent work of students 15%			
<b>2. Educational program: "7R01117 - Anesthesiology and reanimatology, adults, children"</b>															
5	Topical issues of pain therapy in critical medicine	Modern methods of treatment of acute pain	MI	The modern possibilities of assessing the severity of pain, monitoring the effectiveness and safety of pain therapy are considered.	Basic and major residency disciplines in the specialty "Anesthesiology and Resuscitation, including children"	Master's and doctoral disciplines	Chair of Anesthesiology and Intensive Care No. 1	4	58	44	18	3	Chair of Anesthesiology and Intensive Care No. 1	Konkayev A.K.	
		Management of the quality of treatment of acute and chronic pain syndrome						4	58	44	18				
6	Innovative technologies in the practice of anesthesiologist-resuscitator	Monitoring in the Department of Anesthesiology and Resuscitation	MI	The issues of introducing innovative technologies for patient monitoring of the patient, innovative technologies in the device of modern ventilators are considered.	Basic and major residency disciplines in the specialty "Anesthesiology and Resuscitation, including children"	Master's and doctoral disciplines	Chair of Anesthesiology and Intensive Care No. 1	4	58	44	18	3	Chair of Anesthesiology and Intensive Care No. 1	Konkayev A.K.	
		Innovative Respiratory Support Technologies						4	58	44	18				
7	Endogenous intoxication syndrome	Endogenous intoxication syndrome	MI	The educational program of this module involves learning the basic principles of correction of endogenous intoxication syndrome in accordance with the competency model.	Normal Physiology, Anatomy, Pathophysiology	-	Department of Pediatric Anesthesiology, Intensive Care and Emergency Medicine	3	43	33	14	3	Department of Pediatric Anesthesiology, Intensive Care and Emergency Medicine	Maltabarova N.A.	
		Principles of Intensive Care						5	72	56	22				
8	Respiratory therapy	Respiratory therapy	MI	The educational program of this module will allow for an in-depth study of respiratory support regimens for various diseases in accordance with the competency model.	Normal Physiology, Anatomy, Pathophysiology	-	Department of Pediatric Anesthesiology, Intensive Care and Emergency Medicine	8	115	89	36	3	Department of Pediatric Anesthesiology, Intensive Care and Emergency Medicine	Maltabarova N.A.	
9	Anesthesiology and intensive care in obstetrics	Emergency anesthesia in obstetrics, intensive care for bleeding	MI	The use of modern methods of anesthesia and intensive care in obstetrics.	Basics of general medical practice, internal diseases, surgical diseases	Subjects of residency, graduate and practical activities	Department of Anesthesiology and Intensive Care № 2	4	58	44	18	3	the department of Anesthesiology and Intensive Care № 2	Mustafin A.Kh.	
		Intensive care for preeclampsia and its complications						4	58	44	18				
10	Innovative technologies in anesthesiology and resuscitation	Optimization of ventilation parameters, protective ventilation (mechanical ventilation). Correction of acid-base condition with severe lung lesions	MI	Current views on intensive care.	Profiling residency discipline	Disciplines of magistracy and doctoral studies	the department of Anesthesiology and Intensive Care № 2	4	58	44	18	3	the department of Anesthesiology and Intensive Care № 2	Mustafin A.Kh.	
		An integrated approach to the treatment of organ disorders in shock						4	58	44	18				

1	2	3	4	5	6	7	8	9	10				11	12	13			
									the number of credits (hours)	classroom 10%+38%	amount of hours							
№	a module / discipline	module component	cycle of discipline	Course Description	prerequisites	postrequisites	the department participating in the module	the number of credits (hours)			classroom 10%+38%	Independent clinical work under the guidance of a independent work of students 15%	Independent clinical work under the guidance of a independent work of students 15%	Independent clinical work under the guidance of a independent work of students 15%	Independent clinical work under the guidance of a independent work of students 15%	course (specialization / training trajectory)	responsible department for the module / discipline	Head of the department
									<b>3. Educational program: "7R01123 - Pediatric Surgery"</b>									
11	Urgent Pediatric Surgery	Acute intestinal obstruction	MI	Actual issues of etiology, pathogenesis, clinical features, differential diagnosis and treatment of acute intestinal obstruction.	The module includes questions of surgical and conservative treatment, the rehabilitation of children with emergency surgical pathology at the hospital and prehospital stages. Attention is paid to the features of the clinical picture, diagnosis, the choice of treatment tactics and methods of surgical treatment for acute intestinal obstruction, gastrointestinal bleeding, purulent-inflammatory diseases and acute surgical diseases of the chest cavity in children.	Specialized disciplines of residency	Disciplines of magistracy and doctoral studies	3	43	33	13	3	Department of Pediatric Surgery	Lozovoy V.M.				
		Gastrointestinal bleeding	MI	The study of the main issues of etiology, pathogenesis, clinical features, differential diagnosis and treatment of gastrointestinal bleeding.											1	14	11	5
		Purulent-inflammatory diseases in children	MI	The study of the main issues of etiology, pathogenesis, clinical features, differential diagnosis and treatment of purulent-inflammatory diseases in children.											4	58	44	18
12	Congenital malformation in children	Congenital malformations of gastrointestinal tract and respiratory system	MI	The study of the main issues of etiology, pathogenesis, clinical features, differential diagnosis and treatment of malformations of the gastrointestinal tract and respiratory system.	The module includes questions of the causes and mechanisms of the formation of congenital malformations of the fetus, their diagnosis at the antenatal and postnatal stages, questions of their surgical correction and rehabilitation.	Specialized disciplines of residency	Disciplines of magistracy and doctoral studies	3	43	33	13	3	Department of Pediatric Surgery	Lozovoy V.M.				
		Congenital malformations of muskuloskeletal system and nervous system	MI	The study of the main issues of etiology, pathogenesis, clinic, differential diagnosis and treatment of congenital malformations of the muskuloskeletal system and nervous system.											4	58	45	18
		Congenital malformations of urinary and sexual system	MI	The study of the main issues of etiology, pathogenesis, clinical features, differential diagnosis and treatment of congenital malformations of the urinary and reproductive systems.											1	14	11	5

1	2	3	4	5	6	7	8	9	10				11	12	13
									№	a module / discipline	module component	cycle of discipline			
classroom 10%+38%	independent clinical work under the guidance of a independent work of students 15%														
<b>4. Educational program: "7R01125 - Traumatology and Orthopedic, including Pediatric Orthopedics and Traumatology"</b>															
13	Selected issues of traumatology and orthopedics	Reconstructive orthopedic surgery	MI	The module addresses the issues of diagnosis and treatment of diseases and injuries of the musculoskeletal system.	Internship disciplines	Doctoral disciplines	Department of Traumatology, Orthopedics	4	58	44	18	3	Department of Traumatology, Orthopedics	Abilmazhinov M.T.	
		Multiple and combined damage. Principles of "Damage" - control						4	58	44	18				
14	Current requirements in traumatology and orthopedics	Reconstructive surgery in traumatology and orthopedics	MI	The modern stages in the treatment of multiple injuries and surgery in orthopedics are considered.	Internship disciplines	Doctoral disciplines	Department of Traumatology, Orthopedics	4	58	44	18	3	Department of Traumatology, Orthopedics	Abilmazhinov M.T.	
		Modern methods of instrumental diagnostics in traumatology and orthopedics						4	58	44	18				
<b>5. Educational program: "7R01126 - Urology and Andrology adult, pediatric "</b>															
15	Minimally invasive treatments for benign prostatic obstruction	Laparoscopic surgery	MI	In recent years, in world medical practice, much attention is paid to the introduction of minimally invasive, low-traumatic methods of treatment. In the structure of specialized medical care, in particular urological, minimally invasive methods of diagnosis and treatment of diseases are becoming increasingly important in modern conditions.	Pathology of organs and systems, the basics of general medical practice	Doctorate disciplines	Department of urology and andrology	4	58	44	18	3	Department of urology and andrology	Zhanbyrbekuly U.	
		Technique for performing transurethral interventions						4	58	44	18				
16	Modern tactics of treatment of urological and andrological diseases	Conservative and operative treatment of urinary tract infections	MI	Features of modern methods of diagnosis, conservative treatment of urinary tract infections with different localization.. Modern conservative and operative treatments of urinary tract infections.	Pathology of organs and systems, the basics of general medical practice	Doctorate disciplines	Department of urology and andrology	4	58	44	18	3	Department of urology and andrology	Zhanbyrbekuly U.	
		Conservative and surgical treatment of andrological diseases						4	58	44	18				

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<b>6. Educational program: "7R01127 - Ophthalmology for adults, children"</b>															
17	Organ pathology vision with general diseases	Urgent states in ophthalmology	MI	Modern information about the etiology, pathogenesis, clinical presentation and treatment of lesions in common diseases. Retinal damage in hypertension. Hypertensive retinopathy. Acute diseases of the orbit, eyelids, lacrimal organs, cornea, sclera, vascular membranes, retinas. Injuries of the organ of vision.	Basic and major disciplines of residency	Magistracy and doctoral disciplines	Department of Eye Diseases	8	58	44	18	3	Department of Eye Diseases	Akhmedyanova Z.U.	
		Organ pathology vision with general diseases							58	44	18				
18	Neuro-ophthalmology	Innovative technology in ophthalmology	MI	Neuro-ophthalmology - a module that studies general physiology and pathophysiology of the organ of vision, etiology, clinic, diagnostics neuro-ophthalmic disorders in vascular pathology of the brain, craniocerebral injuries and modern methods researching them.	Basic and major disciplines of residency	Magistracy and doctoral disciplines	Department of Eye Diseases	8	58	44	18	3	Department of Eye Diseases	Akhmedyanova Z.U.	
		Cranio-cerebral injury and neuro-ophthalmological serious violations							58	44	18				
19	Oculoplasty	Surgical interventions on eyelids, eye muscles, lacrimal organs	MI	Oculoplasty involves interventions performed outside the eyeball. It includes operations on the eyelids, eye muscles, lacrimal organs, tissues and bones of the orbit, as well as interventions necessary for prosthetics of the eyeball.	Basic and major disciplines of residency	Magistracy and doctoral disciplines	Department of Eye Diseases	8	58	44	18	3	Department of Eye Diseases	Akhmedyanova Z.U.	
		Surgical interventions on tissues and bones of the orbit, interventions necessary for prosthetics of the eyeball							58	44	18				
<b>7. Educational program: "7R01128 - Otorhinolaryngology for adult and children"</b>															
20	Innovative technologies in otorhinolaryngology	Endoscopic rhinosinusosurgery	MI	Studying and acquiring skills on modern principles of diagnosis and surgical treatment of diseases of the nose and paranasal sinuses using endoscopic equipment, on the diagnosis and surgical treatment of ear pathology, and methods of surgical rehabilitation of auditory dysfunction. Laser radiation in the diagnosis and treatment of pathology of ENT organs.	Basic and core disciplines of residency	Disciplines of magistracy and doctoral studies	ENT department	3	43	33	14	3	ENT department	Tulebaev R.K.	
		Ear microsurgery							43	33	14				
		Lasers in otorhinolaryngology							29	22	9				
21	Neoplasms and specific infectious granulomas of the head and neck organs	Neoplasms and specific infectious granulomas of the upper respiratory tract and ear	MI	Study of issues of early diagnosis, modern principles of treatment of neoplasms of the ENT organs and organs of the head and neck, as well as specific infectious granulomas (tuberculosis, syphilis, scleroma).	Basic and core disciplines of residency	Disciplines of magistracy and doctoral studies	ENT department	4	58	44	18	3	ENT department	Tulebaev R.K.	
		Head and neck oncology issues							4	58	44				18

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									classroom 10%+38%	independent clinical work under the guidance of a independent work of students 15%					
<b>8. Educational program: "7R01132 - Obstetric and gynecology for adults and children"</b>															
22	Extragenital pathology in obstetrics and gynecology	Pregnancy and cardiovascular disease	MI	Study of the effect of extragenital pathology on the course of the gestational process. Contraindications for gestational pregnancy with extragenital pathology. Preparing for pregnancy with extragenital pathology. Features of the gynecological pathology on the background of somatic diseases.	Basic and specialized disciplines of residency in the specialty	Disciplines of magistracy, doctoral studies	Department of Obstetrics and Gynecology №2	3	43	33	14	3	Department of Obstetrics and Gynecology №2	Iskakov S.	
		Pregnancy and kidney disease						3	43	33	14				
		Pregnancy and lung disease						2	29	22	9				
23	Surgical diseases in obstetrics and gynecology	Intestinal obstruction and pregnancy	MI	Features of the course, differential diagnosis and treatment of surgical pathology in obstetric and gynecological practice.	Basic and specialized disciplines of residency in the specialty	Disciplines of magistracy, doctoral studies	Department of Obstetrics and Gynecology №2	3	43	33	14	3	Department of Obstetrics and Gynecology №2	Iskakov S.	
		Acute appendicitis and pregnancy						3	43	33	14				
		Acute cholecystitis and pregnancy						2	29	22	9				
24	Laparoscopic surgery in gynecology	Surgery on the appendages	MI	The study of the features and the development of skills for surgical interventions in gynecology by laparoscopic access. Work with laparoscopic equipment, setting modes.	Basic and specialized disciplines of residency in the specialty	Disciplines of magistracy, doctoral studies	Department of Obstetrics and Gynecology №2	3	43	33	14	3	Department of Obstetrics and Gynecology №2	Iskakov S.	
		Operations on the uterus						3	43	33	14				
		Laparoscopically Assisted Surgery						2	29	22	9				
25	Infertile couple	Female infertility	MI	Study of the root causes of infertility. Principles of evidence-based medicine, rational clinical assessment of fertility, diagnosis and pharmacotherapy of female and male infertility. Endocrine female infertility. Tubal peritoneal infertility. Male infertility. Infertility and small forms of endometriosis. Married couple survey algorithm. Counseling infertile couple. Auxiliary reproductive technologies.	Basic and specialized disciplines of residency in the specialty	Disciplines of magistracy, doctoral studies	Department of Obstetrics and Gynecology №2	3	43	33	14	3	Department of Obstetrics and Gynecology №2	Iskakov S.	
		Male infertility						3	43	33	14				
		Auxiliary reproductive technologies						2	29	22	9				
26	Endovideosurgical operations in gynecology	Laparoscopic organ-preserving operations	MI	Technique of laparoscopic operation on pelvis. Anesthesia. Complication. Rehabilitation. Correction of malformation of female genitals.	Disciplines of obstetrics and gynecology undergraduate and internship	Disciplines of MD and PhD	Department of obstetrics and gynecology №1	3	43	33	14	3	Department of obstetrics and gynecology №1	Hamidullina Z.G.	
		Hysteroscopy in gynecology	MI					3	43	33	14				
		Laparoscopic surgery for treating infertility	MI					2	29	22	9				
27	Extragenital pathology and pregnancy	Endocrin system disorders and pregnancy	MI	Features of pregnancy, delivery and postpartum in women with extragenital pathology. Contraindications to bearing.	Disciplines of obstetrics and gynecology undergraduate and internship	Disciplines of MD and PhD	Department of obstetrics and gynecology №1	2	29	22	9	3	Department of obstetrics and gynecology №1	Hamidullina Z.G.	
		Respiratory tract diseases and pregnancy	MI					2	29	22	9				
		Cardiovascular system disorders and pregnancy	MI					2	29	22	9				
		Urinary tract system diseases and pregnancy	MI					2	29	22	9				

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									classroom 10%+38%	independent work under the guidance of a independent work of students 15%	independent clinical work	under the guidance of a independent work of students 15%			
<b>9. Educational program: "7R01136 - General Surgery"</b>															
28	Thoracic surgery	Tracheal stenosis	MI	Formation of residents' knowledge of thoracic surgery. Improving practical competencies in this section of surgery.	Specialized disciplines of the specialty	Disciplines of magistracy, doctoral studies	Department of Surgical Diseases with courses in Cardiothoracic Surgery and Maxillofacial Surgery	2	29	22	9	3	Department of Surgical Diseases with courses in Cardiothoracic Surgery and Maxillofacial Surgery	S. Kozhakhmetov.	
		Mediastinal surgery. Mediastinites						2	29	22	9				
		Surgery of anomalies (malformations) of the chest, parasitic and suppurative lung diseases						2	29	22	9				
		Videoescopy in thoracic surgery						2	29	22	9				
29	New technologies in the treatment of pancreatic diseases	Modern principles of treatment of pancreatic necrosis	MI	To train residents in modern methods of diagnosis or treatment of patients with pancreatic diseases. Encourage independent thinking, the development of clinical tactics and treatment of diseases of the pancreas.	Specialized disciplines of the specialty	Disciplines of magistracy, doctoral studies	Department of Surgical Diseases with courses in Cardiothoracic Surgery and Maxillofacial Surgery	2	29	22	9	3	Department of Surgical Diseases with courses in Cardiothoracic Surgery and Maxillofacial Surgery	S. Kozhakhmetov	
		Surgical treatment of chronic pancreatitis						2	29	22	9				
		Pancreatic cysts						2	29	22	9				
		Application of cellular technologies in the treatment of pancreatic diseases						2	29	22	9				
<b>10. Educational program: "7R01141 - Emergency medicine for adults, children"</b>															
30	Shocks	Triage system	MI	The educational program of this module involves the study of the basic principles of intensive therapy for shock conditions in accordance with the competence model	Normal physiology, anatomy, pathophysiology	-	Department of Pediatric Anesthesiology, Intensive Care and Emergency Care	2	29	22	9	3	Department of Pediatric Anesthesiology, Intensive Care and Emergency Care	Maltabarova N.A.	
		Emergency care for shocks						6	86	67	27				
31	Respiratory therapy	Respiratory therapy	MI	The educational program of this module will allow you to study in depth the modes of respiratory support for various diseases in accordance with the competence model	Normal physiology, anatomy, pathophysiology	-	Department of Pediatric Anesthesiology, Intensive Care and Emergency Care	8	115	89	36	3	Department of Pediatric Anesthesiology, Intensive Care and Emergency Care	Maltabarova N.A.	

Approved at the meeting of quality assurance committee for educational programs of residency and additional education

Protocol no.5 from 16.03.2022 y.

Head of the Registrar's office  N. Tleshova