



# Curriculum in pediatric surgery

Co-funded by the  
Erasmus+ Programme  
of the European Union



## GRADUATE COMPETENCIES AND LEARNING RESULTS

General competencies		№	Outcomes of educational program Graduates will be able to:
1	<b>Patient administration</b>	1.1.	can formulate a clinical diagnosis
		1.2	Establish a treatment plan and evaluate its effectiveness on the basis of evidence at all levels of care.
2.	<b>Communication and collaboration</b>	2.1	is able to interact effectively with the patient, his environment, specialists
3.	<b>Safety and quality</b>	3.1	is able to assess risks and use best practices to ensure a high level of safety and quality of care.
4.	<b>Public health</b>	4.1	is able to act within the legal and organizational framework of the health-care system of the Republic of Kazakhstan in its specialty
		4.2	Able to work in cross-professional teams to implement health promotion policies
		4.3	Able to provide basic emergency assistance
5	<b>Science</b>	5.1	capable of formulating adequate research questions
		5.2	is able to critically evaluate professional literature, effectively use international databases in its daily activities
		5.3	is able to participate in the research team
6	<b>Education and development</b>	6.1	is able to learn independently and train other members of a professional team.
		6.2	can actively participate in discussions, conferences and other forms of continuous professional development.

Special competencies		No	Outcomes of educational program Graduates will be able to:
7	<b>Clinical examination</b>	7.1	conducts clinical-laboratory research, differentials diagnosis and formulates clinical diagnosis.
		7.2	determines surgical treatment tactics and conduct tactics in accordance with clinical diagnosis and potential risks based on evidence-based practice
		7.3	Possesses diagnostic and emergency pre-hospital algorithms for children in emergency situations
		7.4	Modern surgical treatment and rehabilitation of children with diseases of various organs and systems
8.	<b>Communication and collaboration</b>	8.1	Demonstrates collaboration in a multidisciplinary team;
		8.2	Demonstrates adherence to ethical principles; understands the need to respect confidentiality in professional relations with the patient and parents of the caregivers
9.	<b>Safety and quality</b>	9.1	Analyses the quality, effectiveness and safety of diagnostic methods for childhood and adolescence
		9.2	works as a team to effectively provide patient-oriented care that is safe
10.	<b>Surgical intervention</b>	10.1	Performs surgical interventions: at least 50 high-level operations, of which at least 10% are carried out as the first operator
		10.2	Performs surgical interventions: At least 100 mid-level surgical interventions, of which at least 25% are performed by the first operator
		10.3	Performs surgical interventions: at least 250 small operations, of which at least 40% are carried out as the first operator

## Curriculum and student assessment

Cycle	Module	Discipline	Code	Name of the discipline	Credits		Total of hours			IWR	IWR	Form of final control	
					KZ	ECTS		seminars	lectures				
<b>PD</b>	Profile disciplines												
PD RC	Profile disciplines required component												
	<b>Module / section / discipline</b>												
OK	<b>Neonatal surgery</b>		NS	Neonatal surgery	20	30	600	45	15	450	90	exam	
	<b>Module / section / discipline</b>												
OK	<b>Pediatric surgery</b>		PCh	Planned Surgery	16	24	480	30	18	360	72	exam	
			Ur	Urology	20	30	600	40	20	450	90	exam	
			TCh	Thoracic surgery	20	30	600	40	20	450	90	exam	
			GCh	Purulent surgery	20	30	600	40	20	450	90	exam	
			ECh	Endoscopic surgery	18	27	540	40	14	405	81	exam	
			NeotCh	Emergency surgery	10	15	300	20	10	225	45	exam	
	<b>Module / section / discipline</b>												
OK	Pediatric outpatient surgery		APChDV	Pediatric outpatient surgery	10	15	300	20	10	225	45	exam	

## Curriculum and student assessment

ОК	Module "General and Specialized Pediatrics"		OSP	"General and Specialized Pediatrics"	26	39			28	585	117	exam
ОК	Module Pediatric Traumatology and Orthopedics		TrD	Traumatology in children	15	22,5	450	30	15	338	67	exam
			OrtD	Orthopedics in children.	10	15	300	20	10	225	45	exam
			CombD	Combustology in children	4	6	120	8	4	90	18	exam
ОК	Module Imaging and radiation diagnostics		VisLD	Imaging and radiation diagnostics	4	6	120	8	4	90	18	exam
ОК	Module Anesthesiology		Anest	Anesthesiology	3	4,5	90	6	3	68	13	exam
БД КВ	Profile disciplines optional component (electives)				8	12	240	14	10	180	36	exam
ПА	<b>Intermediate examination</b>				4	6	120					
ИГА	<b>Final examination</b>				2	3	60					Complex assessment

# Certification course

The name of the specialty in accordance with the Nomenclature of specialties and specializations	<b>Reconstructive plastic surgery in children</b>
Program name	Pediatric surgery
Type of program (professional development / certification cycle / non-formal education event)	Certification course
Prerequisite education requirements (target group)	Residency pediatric surgery
Level	7
Language of the document	English
Volume in credits	40
The volume of hours / of which classroom	1200

**The purpose of the certification course:**

Preparation of a qualified specialist for subsequent work as a doctor of pediatric reconstructive plastic surgery.

**Brief description of the certification course:**

Formation of knowledge, diagnostic skills and treatment in the field of reconstructive surgery for children at the level of hospital care organization, according to the regulations. Application of clinical guidelines of the Republic of Kazakhstan. Continuous professional development and analysis of scientific databases. Formation of skills to work with the patient, his environment as part of interprofessional teams; skills in medical records management.

## Implementation plan for the certification course

№	Name of topic / section / disciplines	Volume in hours					Tasks
		lecture	seminar	training	practical lesson	independent student work	
1.	Tissue anatomy and types of blood supply, acute ischemia and tissue survival, tissue reinnervation	6	6	6	8	4	Etiology of tissue defects, principles of replacement, Preparation of tissue flaps, Scar formation disorders, Hypertrophied and keloid scars
2	General plastic surgery technique, wound healing and optimal scar, the concept of regeneration	6	6	6	8	4	<b>Features of preoperative preparation in plastic surgery.</b> Features of microcirculation in organs and tissues, Donor area, Postoperative management of vascularized autotransplantations, Skin-fascial flaps
3	Malformations in reconstructive plastic surgery	6	6	6	8	4	Congenital anomalies of the upper limb and their treatment, Congenital and acquired diseases of the breast, polydactyly and syndactyly of the upper and lower extremities, congenital deformities of the upper and lower extremities.
4	Plastic surgery of the consequences of limb injuries	6	6	6	8	4	Hand surgery, Requirements for surgical interventions on the hand. Damage to the flexor tendons of the hand. Damage to the extensor tendons of the hand. Replacement of hand skin defects with local tissues. Replacement of hand skin defects with islet flaps Dupuytren's disease



Discipline	Code	Name of the discipline	Credits			PROPOSED NAME	PROPOSED REMODULATION 4 YEARS COURSE		PROPOSED REMODULATION 3 YEARS + 1 YEAR CERTIFICATION COURSE	
			KZ	ECTS	hours		ECTS	hours	ECTS	hours
Neonatal surgery	NS	Neonatal surgery	20	30	600	Neonatal surgery	20	500	15	375
Pediatric surgery	PCh	Planned Surgery	16	24	480	Head and neck surgery	15	375	10	250
	Ur	Urology	20	30	600	Urology	20	500	15	375
	TCh	Thoracic surgery	20	30	600	Thoracic surgery	20	500	15	375
	GCh	Purulent surgery	20	30	600	Gastrointestinal surgery	25	625	20	500
	ECh	Endoscopic surgery	18	27	540	Endoscopy	10	250	7	175

	NeotCh	Emergency surgery	10	15	300	Emergency surgery	15	375	10	250
						Tumour surgery	10	250	8	200
Pediatric outpatient surgery	APChDV	Pediatric outpatient surgery	10	15	300	Pediatric outpatient surgery	10	250	8	200
General and Specialized Pediatrics	OSP	"General and Specialized Pediatrics"	26	39	780	General and Specialized Pediatrics	25	625	18	450
Pediatric Traumatology and Orthopedics	TrD	Traumatology in children	15	22,5	450	Traumatology	15	375	10	250
	OrtD	Orthopedics in children	10	15	300	Orthopedics	10	250	8	200
	CombD	Combustology in children	4	6	120	Burns	4	100	3	75
Imaging and radiation diagnostics	VisLD	Imaging and radiation diagnostics	4	6	120	Imaging	5	125	4	100

Anesthesiology	Anest	Anesthesiology	3	4,5	90	Anesthesiology and intensive care	10	250	8	200
Profile disciplines optional component			8	12	240	Opional disciplines	20	500	15	375
Intermediate examination			4	6	120	Intermediate examination	4	100	4	100
Final examination			2	3	60	Final examination	2	50	2	50
			210	315	6300		<b>240</b>	<b>6000</b>	180	4500
certification course plastic surgery									60	1500
									<b>240</b>	<b>6000</b>