



AGREED

Leading Researcher

«KazRoadRI» JSC

Aidarbekov E.K.

2023 г.



I APPROVE

Director of the «ITRI» Institute

Chigambayev T.O.

2023 г.

THE CATALOG OF DISCIPLINES OF THE COMPONENT OF CHOICE

EDUCATIONAL PROGRAMS

8D07164 – Transport infrastructure engineering

Education level: Doctoral degree

Duration of study: 3 years

Year of admission: 2023

Module	Cycle	Component	Name of the discipline	Total labor intensity		Term	Learning outcomes	A brief description of the discipline	Prerequisites	Post-requirements	Department
				in academic hours	in academic credits						
1	2	3	4	5	6	7	8	9	10	11	12
Module 1 – Scientific and pedagogical competencies	BD	CC 1	Diagnostics and assessment of the technical condition of transport infrastructure facilities	150	5	1	LO3, LO5	The study of new diagnostic tools makes it possible to assess the condition of rails, rail fasteners, ballast and roadbed, their transverse outlines, the state of the sleeper farm and dimensions, the use of data obtained during diagnostics for the organization of the current maintenance of the track and planning repairs.	Bachelor's and Master's degree courses	SRWDS, FC, Research practice	SI
			Sustainability of transport infrastructure facilities				The discipline is intended for doctoral students to study modern methods of calculating the stability of transport infrastructure objects, taking into account the stress-strain state of their structures in various climatic and operational conditions. As a result of studying this discipline, doctoral students should master the basic methods and methods for determining the stability of transport infrastructure objects, taking into account their technical and operational features in various natural and climatic conditions.				

1	2	3	4	5	6	7	8	9	10	11	12
Module 2 - Core competencies	PD	CC 4	The theory of decision-making in transport infrastructure problems	150	5	1	LO4, LO5	The discipline is intended for doctoral students to study concepts, basic provisions and rules, methods and methods of choosing solutions, taking into account the peculiarities of various situational management tasks of transport infrastructure. As a result of studying this discipline, doctoral students should master the theoretical foundations of making informed decisions with their practical application in various scientific and production tasks of the infrastructure of the transport and communication complex of the country.	Bachelor's and Master's degree courses	SRWDS, FC, Research practice	SI
			Geoinformation systems in transport infrastructure				LO4, LO5	The discipline is intended for doctoral students to study modern technologies, methods and means of creating and using geoinformation systems focused on the analysis of spatial (geographical) data in solving scientific and industrial problems of transport infrastructure. As a result of studying this discipline, doctoral students should master the theoretical foundations of the application and master the practical skills of using geoinformation systems in the infrastructure of the transport and communication complex of the country.	Bachelor's and Master's degree courses	SRWDS, FC, Research practice	
Итого				300	10						

Head of the Department of "Construction Engineering"

Ismagulova S.O.