



**SCHOOL OF
COMPUTER SCIENCE
& MATHEMATICS**
KIMEP UNIVERSITY

BACHELOR OF INFORMATION SYSTEMS (BIS) – 6B06101

2024-2025



Category of courses	KIMEP credits	ECTS
General Education	36	56
Program Foundation	68	113
Program Specialization	36	60
Final Attestation	6	11
TOTAL	146	240

PROGRAM FOUNDATION COURSES (68 KIMEP CREDITS / 113 ECTS):

- (1) Program foundation required courses (59 KIMEP credits/98 ECTS)
- (2) Program foundation elective courses (9 KIMEP credits/15 ECTS)

Program Foundation Courses		KIMEP credits	ECTS	Prerequisite
Program Foundation Required Courses		59	98	
BUS4251.1	OPTION 1 Internship Program I	1	2	60 KIMEP credits completed
IFS4251.2	Internship Program in IS II	2	3	
IFS4204	OPTION 2 Decision Support Systems as Internship substitute	3	5	GEN/OPM 1300 or GEN/OPM 2301
ENG/GEN1100	Academic Speaking	3	5	
ENG/GEN1121	Academic Reading and Writing 2	3	5	
KAZ2103 OR RUS2103	Professional Kazakh (Russian)	2	3	
FIN2105	Business Microeconomics	3	5	ENG/GEN1120/GEN1011
CIT2735	Introduction to Programming	3	5	GEN/OPM 1300 or GEN\OPM 2301
MGT3001	Principles of Management	3	5	ENG/GEN1120/GEN1011
ACC2102	Financial Accounting 1	3	5	FIN2105
FIN3121	Financial Management	3	5	ACC2102, GEN/OPM2402 or IFS2402
IFS2203	Management Information Systems	3	5	GEN/OPM 1300 or GEN/OPM 2301
MKT3130	Principles of Marketing	3	5	ENG/GEN1120/GEN1011
MATH1202	Calculus	3	5	ENG/GEN1120/GEN1011
OPM3131	Introduction to Operations Management	3	5	GEN/OPM2402 or IFS2402
IFS2402	Probability and Mathematical Statistics	3	5	MATH1202
ACC2201	Management Accounting, I	3	5	ACC2102
FIN3210	Corporate Finance	3	5	FIN3121
LAW2202	Business Law	3	5	
MGT4201	Strategy and Business Policy	3	5	MGT3001, MKT3130, FIN3121, ACC2201+ to be 4th year student
OPM3011	Quantitative Methods for Business Data Analysis	3	5	GEN/OPM2402 or IFS2402
MATH1204	Mathematics for Computer Science	3	5	MATH1202
Program Foundation Elective Courses		9	15	
XXXX	Elective 1	3	5	
XXXX	Elective 2	3	5	
XXXX	Elective 3	3	5	
TOTAL		68	113	

BUS4251.1 Internship Program I and IFS4251.2 Internship Program in IS II must be taken concurrently.



PROGRAM SPECIALIZATION COURSES (36 KIMEP CREDITS/ 60 ECTS):

- (1) Required Specialization Courses (27 KIMEP credits/ 45 ECTS) and
- (2) Elective Specialization Courses (9 KIMEP credits/ 15 ECTS).

Program Specialization Courses		KIMEP credits	ECTS	Prerequisite
Program Specialization Required Courses		27	45	
IFS4203	Big Data Management and Analysis	3	5	GEN/OPM 1300 or GEN/OPM 2301
IFS2204	Algorithms and Data structures	3	5	none
IFS4204	Decision Support Systems	3	5	GEN/OPM 1300 or GEN/OPM 2301
CIT1303	Computer Networks	3	5	PHYS1201 Physics or GEN/OPM 1300 or GEN/OPM 2301
CIT2302	Database Management Systems in Business	3	5	GEN/OPM 1300 or GEN/OPM 2301
CIT2731	Data Visualization in Business	3	5	GEN/OPM 1300 or GEN/OPM 2301
CIT3734	Enterprise Web Applications	3	5	GEN/OPM 1300 or GEN/OPM 2301
CIT4242	Advanced Programming	3	5	CIT2735
IFS4251.3	Internship Program in IS III	3	5	IFS4251.2/ IFS4201.2
Program Specialization Elective Courses		9	15	
IFS3745	Information Security Management	3	5	GEN/OPM 1300 or GEN/OPM 2301
IFS4302	IT Project Management	3	5	GEN/OPM 1300 or GEN/OPM 2301
IFS2301	Introduction to Data Science	3	5	GEN/OPM2402 or IFS2402
CIT3801	Software Engineering Concepts	3	5	GEN/OPM2402 or IFS2402
CIT3809	Mobile Programming	3	5	GEN/OPM 1300 or GEN/OPM 2301
CIT3810	Machine Learning	3	5	GEN/OPM 1300 or GEN/OPM 2301
CIT4740	Human Computer Interaction	3	5	GEN/OPM 1300 or GEN/OPM 2301
OPM4302	Project Management	3	5	OPM3131
IFS3201	Blockchain and Cryptocurrency	3	5	OPM3011, FIN3121, GEN/OPM2402 or IFS2402
IFS3202	ERP Development and Programming	3	5	IFS2204, CIT2302
CIT3806	Cryptographic Data Security	3	5	IFS2204
CIT3812	Programming in C	3	5	IFS2204
CIT3803	Python Programming	3	5	IFS2204
CIT3807	Programming in Java	5	5	IFS2204
CIT3814	Programming in PHP	3	5	IFS2204
CIT3815	Database Development with SQL	3	5	IFS2204
CIT3908	Cybersecurity	3	5	GEN/OPM 1300 or GEN/OPM 2301
IFS4305	Data Visualization	3	5	GEN/OPM 1300 or GEN/OPM 2301
IFS3730	Business Analytics	3	5	GEN2402 or IFS2402, GEN/OPM 1300 or GEN/OPM 2301
IFS4304	SAP System	3	5	CIT2302
OPM3215	Business Time Series Forecasting	3	5	OPM3011
IFS3203	Enterprise Resource Planning (ERP) Systems	3	5	CIT2302
IFS3290	New Trends in MIS	3	5	GEN/OPM2402 or IFS2402
BUS3334	Ethics, Responsibility and Sustainability in Business	3	5	MGT3001
MGT3219	Corporate Social Responsibility	3	5	MGT3001
FIN2106	Business Macroeconomics	3	5	FIN2105
TOTAL		36	60	

IFS4204 Decision Support Systems is a Program Specialization course. In case of Decision Support Systems is allowed to be taken as Internship substitute, any high-level CIT/IFS course should be taken to meet credit requirements.



BIS SPECIALIZATIONS/MAJORS:

- (1) Big Data Analytics
- (2) Management Information Systems

To gain specialization in **Big Data Analytics**, students are required to complete the following courses:

Course Code	Course Title	KIMEP credits	ECTS
All 9 Program Required Specialization Courses		27	45
<i>Any three courses from:</i>			
IFS2301	Introduction to Data Science	3	5
CIT3803	Python Programming	3	5
OPM3215	Business Time Series Forecasting	3	5
IFS4302	IT Project management	3	5
IFS4305	Data Visualization	3	5
IFS3730	Business Analytics	3	5
CIT3810	Machine Learning	3	5
CIT3815	Database Development with SQL	3	5
CIT3908	Cybersecurity	3	5
TOTAL		36	60

To gain specialization in **Management Information Systems**, students are required to choose the following specialized courses:

Course Code	Course Title	KIMEP credits	ECTS
All 9 Program Required Specialization Courses		27	45
<i>Any three courses from:</i>			
IFS3203	Enterprise Resource Planning (ERP) Systems	3	5
IFS3202	ERP Development and Programming	3	5
IFS4305	Data Visualization	3	5
OPM4302	Project Management	3	5
IFS3745	Information Security Management	3	5
IFS4302	IT Project management	3	5
IFS3201	Blockchain and Cryptocurrency	3	5
IFS4304	SAP System	3	5
TOTAL		36	60

FINAL ATTESTATION (6 KIMEP CREDITS/11 ECTS):

OPTION 1

Final Attestation		KIMEP credits	ECTS	Prerequisite
BUS4271	Research Methods in Business Studies	5	3	3rd year student and GEN/OPM2402 or IFS2402
IFS4272	Thesis	6	3	128 credits and BUS4271
TOTAL		6	11	

OPTION 2

Final Attestation		KIMEP credits	ECTS	Prerequisite
BUS4271	Research Methods in Business Studies	3	5	3rd year student and GEN/OPM2402 or IFS2402
IFS4277	State Examination	1	6	128 credits and BUS4271
IFSxxxx	State Specialized Examinations	2		
TOTAL		6	11	