

BS Information Science: Emphasis in Data Science

Study plan for students admitted to U of A beginning **Fall 2022**. Course codes, names, equivalencies, unit amounts and terms are subject to change.

Year One

Semester One		Units
NKU	MSPK1103: Module of Socio-Political Knowledge	4
	HM1202: Higher Mathematics	3
	HK1102: History of Kazakhstan	2.5
	FL1101: Foreign Language (No UA Credit)	5
	IIS1201 : Introduction to Information Systems	3
UA	HED 102A: Succeeding as a Global Wildcat	0.5
Semester Total		18

Semester Two		Units
NKU	EL1203: English Language (No UA Credit)	2.5
	MAT1204: Math 2	3
	BLAC1106: Basis of Law and Anticorruption Culture or EFE110: Economics and Fundamental of Entrepreneurship or MSR1106: Methods of Scientific Research or ESD1106: Economy and Sustainable Development or BLS1106: Fundamentals of Life Safety or CC1106: Climate Change	2.5
	KL1104: Kazakh Language I	2.5
	Educational Practice	1
	PHY1205: Physics I	3
UA	HED 102B: Succeeding as a Global Wildcat	0.5
Semester Total		15

Year Two

Semester Three		Units
NKU	MAT2206: Math 3	2.5
	CAOS2209 or AOCS2209: Computer Architecture and Operating Systems or Organization of Computer Systems	2
	IWDD2208: Introduction to Web Design and Development	2.5
	PLT2111: Programming Languages and Technologies	4
	ICT2110: Information Communication Technologies	2.5
UA	ENGL 106: Foundations Writing for English as an Additional Language Students	3
Semester Total		16.5

Semester Four		Units
NKU	CM2214: Computer Mathematics	3
	FLP2207: Functional and Logical Programming	3
	DMS2213: Database Management Systems	2.5
	FED2215 or AWD2215: Front-end Development or Advanced Web Design	2.5
	ADS2216 or ADSA2216: Algorithms and Data Structures or Analysis of Discrete Structures and Algorithms	2.5
	ADV2211: Applied Data Visualization	2.5
	Production Practice I	2
UA	ENGL 107: Foundations Writing for English as an Additional Language Students	3
Semester Total		21

Year Three

Semester Five		Units
NKU	FCN3218: Fundamentals of Computer Networks	2.5
	WP3301: WEB-Programming	3
	IS3217: Information Security	3
	OOP3308 or PFIA3308: Object Oriented Programming or Programming for Informatics Applications	3
	MTA3309 or IMDM3309: Mobile Technologies and Applications or Information, Multimedia Design and Moving Image	2.5
	PHI3109: Philosophy	2.5
UA	ENGL 108: Foundations Writing for English as an Additional Language Students	3
	ISTA 131: Dealing with Data	4
Semester Total		23.5

Semester Six		Units
NKU	WADM 3311 or TRWS3311: Web Analytics and Digital Marketing or Text Retrieval and Web Search	2.5
	EKDS3312 or STIS3312: Expert Knowledge and Decision Support Systems or Special Topics in Information, Science, Technology & Arts	2.5
	STQA3310 or SRAT3310: Software testing and Quality Assurance or Software Requirements Analysis and Test	2.5
	Production Practice I	2
UA	ISTA 161: Ethics in a Digital World	3
	ISTA 321: Data Mining and Discovery	3
Semester Total		15.5

Year Four

Semester Seven (Study Arizona Option)		Units
UA	ISTA 350: Programming for Informatics Applications	3
	ISTA 301: Computing and the Arts OR ISTA 401: Installation Design	3
	ESOC 480: Digital Engagement	3
	ISTA 498: Senior Capstone	3
	ESOC 302: Quantitative Methods	3
	Semester Total	15

Semester Eight		Units
NKU	SRFI4314 or QMFD4314: Scientific Research in Information Technologies or Quantitative Methods for the Digital Marketplace	3
	KL4104: Kazakh Language	2.5
	Pre-Diploma Practice or Production Practice 2	2.5
	Final Presentation of Writing and Defending a Diploma Thesis or Preparing and Passing a Complex Exam	4
UA	ISTA 457: Neutral Networks	3
	Semester Total	15