

BS Applied Biotechnology

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
	IPA1201 : Introduction to Professional Activity	2
UA	HED 102A: Succeeding as a Global Wildcat	0.5
Semester Total		17

Semester Two		Units
NKU	EL1203: English Language (No UA Credit)	2
	Gc1204: General Chemistry	4
	GB1206 or IB1206: General Biology or Introduction to Biology I	4
	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
	FRA1207 or OPRA1207: Fundamentals of Research Activities or Organization and Planning of Research Activities	2
UA	HED 102B: Succeeding as a Global Wildcat	0.5
Semester Total		16.5

Year Two

Semester Three		Units
NKU	TFIC2110: Theoretical Foundations of Inorganic Chemistry	4
	BBE2212 or EEB2212: Biology with Basics of Ecology or Evolutionary and Ecological Biology	4
	PHY2208: Physics I	4
	KL2105: Kazakh Language	2.5
UA	ENGL 106: Foundations Writing for English as an Additional Language Students	3
Semester Total		17.5

Semester Four		Units
NKU	ECES2209: Environmental Chemistry and Environmental Safety	3
	OC2211 or TBOC2211: Organic Chemistry I or Theoretical Basis of Organic Chemistry	4
	MIC2213: Microbiology	4
	STA2210: Statistics	3
	ARG2301: Agrobiotechnology	2
UA	ENGL 107: Foundations Writing for English as an Additional Language Students	3
Semester Total		19

Year Three

Semester Five		Units
NKU	OCS3220: Organic Chemistry 2	4
	BIO3215: Biochemistry	3
	PHI3109: Philosophy	2.5
UA	ENGL 108: Foundations Writing for English as an Additional Language Students	3
	PLS 340: Introduction to Biotechnology	3
Semester Total		15.5

Semester Six		Units
NKU	PHY3216: Physics 2	4
	FB3311: Food Biotechnology	3
	BP3312: Biotechnology of Plants	3
	Production Practice I	1
UA	PLS 312: Plant and Animal Genetics	4
	PLP 428R: Microbial Genetics	3
Semester Total		18

Year Four

Semester Seven (Study Arizona Option)		Units
UA	MIC 350: Core Concepts in Molecular Microbiology	3
	PLS 340L: Biotechnology Laboratory	2
	PLS 434: Industrial Biotechnology	3
	ENVS 408: Scientific Writing for Environmental, Agricultural and Life Sciences	3
	OR ALC 422: Communicating Knowledge in Agriculture & the Life Sciences	
	PLP 428L: Microbial Genetics Laboratory	2
	NSC 310: Human Nutrition in the Prevention and Treatments of Disease	3
Semester Total		16

Semester Eight		Units
NKU	Writing and defending a diploma Or Preparation and passing of a comprehensive exam	4
	Pre-graduation practice Or Industrial Practice	2.5
	IT4110: Introduction to Theater	2.5
	FEA4219: Features of Entrepreneurial Activity	3
UA	PLS 449A: Plant Genetics and Genomics OR PLS 359: Plant Molecular Biology OR MIC 328R: Microbial Physiology	3
	Semester Total	15