

UNIVERSITY OF AGRICULTURE, FAISALABAD

Department of Mathematics and Statistics

Scheme of Studies for BS Biostatistics 2025-2026

HEC COURSE CATEGORY	UAF SELECTION FOR BS BIOSTATISTICS		
	Course Code	Course Title	Credits
GENERAL- I	FA-310	INTRODUCCTION TO ARTS AND HUMANITIES	2(2-0)
GENERAL- II	SSH-303	IDEOLOGY AND CONSTITUTION OF PAKISTAN	2(2-0)
GENERAL- III	CS-305	APPLICATIONS OF INFORMATION AND COMMUNICATION TECHNOLOGIES	3(2-1)
GENERAL- IV	MATH-408	QUANTITATIVE REASONING-I	3(3-0)
GENERAL- V	ENG-313	FUNCTIONAL ENGLISH	3(3-0)
GENERAL- VI	IS-401/SSH-306	ISLAMIC STUDIES/ ETHICS	2(2-0)
GENERAL- VII	STAT-408	QUANTITATIVE REASONING-II	3(3-0)
GENERAL- VIII	ENG-314	EXPOSITORY WRITING	3(3-0)
GENERAL- IX	EDU-306	CIVICS AND COMMUNITY ENGAGEMENT	2(2-0)
GENERAL- X	PY-307	FUNDAMETALS OF NATURAL SCIENCES	3(2-1)
GENERAL- XI	BMS-402	ENTREPRENEURSHIP	2(2-0)
GENERAL- XII	SOC-311	INTRODUCTION TO SOCIOLOGY	2(2-0)
NON-CREDIT COURSE	IS-402/SSH-403	ترجمة القرآن/INTERFAITH HARMONY	No-Credit
NON-CREDIT COURSE	IS-403/SSH-404	روحانیت/ MORAL PHILOSOPHY	No-Credit
		Total Credit Hours	30
ALLIED-I	MATH-303	CALCULUS-I	4(4-0)
ALLIED-II	MATH-601	NUMERICAL ANALYSIS	3(3-0)
ALLIED-III	MATH-513	OPERATIONS RESEARCH	3(3-0)
ALLIED-IV	EPH-401	BASICS OF EPIDEMIOLOGY	3(3-0)
ALLIED-V	PBG-514	BIOMETRY	2(0-2)
ALLIED-VI	PBG-518	BIOLOGICAL DATA SCIENCE	3(1-2)
ALLIED- VII	EPH-501	EPIDEMIOLOGICAL DISEASE MODELLING	3(3-0)
ALLIED-IX	BIOCHEM-515	CLINICAL BIOCHEMISTRY	4(2-2)
ALLIED-X	BIO-301	ESSENTIAL OF BIOLOGY	3(2-1)
ALLIED-XI	SE-505	MACHINE LEARNING	3(2-1)
ALLIED-XII	DA-606	HEALTH ANALYTICS	3(2-1)
ALLIED-XIV	PBG-613	INTRODUCTION TO QUANTITATIVE GENETICS	2(0-2)
		Total Credit Hours	36
MAJOR-I	BSTAT-301	INTRODUCTION TO BIOSTATISTICS	4(4-0)

MAJOR-II	BSTAT-302	CATEGORICAL DATA ANALYSIS	3(3-0)
MAJOR-III	BSTAT-401	VITAL STATISTICS	3(3-0)
MAJOR-IV	BSTAT-402	INTRODUCTION TO BIOMEDICAL RESEARCH	3(3-0)
MAJOR-V	BSTAT-501	SAMPLING TECHNIQUES AND DESIGN	4(4-0)
MAJOR-VI	BSTAT-502	BIOSTATISTICAL INFERENCE	4(4-0)
MAJOR-VII	BSTAT-503	DISTRIBUTION THEORY	4(4-0)
MAJOR-VIII	BSTAT-504	DESIGN OF EXPERIMENTS AND BIOASSAY	4(4-0)
MAJOR-IX	BSTAT-505	REGRESSION AND TIME SERIES ANALYSIS	4(4-0)
MAJOR-X	BSTAT-506	PROGRMMING WITH R	4(0-4)
MAJOR-XI	BSTAT-507	STATISTICS AND MEDICAL DIAGNOSTICS	3(3-0)
MAJOR-XII	BSTAT-508	SURVIVAL ANALYSIS AND MODELING	3(3-0)
MAJOR-XIII	BSTAT-509	INTRODUCTION TO STATISTICAL SOFTWARES	4(0-4)
MAJOR-XIV	BSTAT-510	STATISTICAL QUALITY CONTROL	3(3-0)
MAJOR-XV	BSTAT-601	MODELING CATEGORICAL DATA	3(3-0)
MAJOR-XVI	BSTAT-602	BAYESIAN BIostatISTICS	3(3-0)
MAJOR-XVII	BSTAT-603	ANALYSIS OF REPEATED MEASUREMENTS	3(3-0)
MAJOR-XVIII	BSTAT-604	APPLIED MULTIVARIATE ANALYSIS	4(4-0)
MAJOR-XIX	BSTAT-605	DESIGN AND ANALYSIS OF MEDICAL STUDIES	3(3-0)
MAJOR-XX	BSTAT-620	SEMINAR	1(1-0)
		Total Credit Hours	67
INTERNSHIP	BSTAT-621	TECHNICAL REPORT/ INTERNSHIP	3(0-3)
CAPSTONE PROJECT	BSTAT-622	CAPSTONE PROJECT	3(0-3)
		Total Credit Hours	06
		Grand Total	139

SEMESTER WISE BREAK UP

FIRST SEMESTER

COURSE CODE	COURSE TITLE	CREDIT HOURS
BSTAT-301	INTRODUCTION TO BIostatISTICS	4(4-0)
MATH-303	CALCULUS-I	4(4-0)
ENG-313	FUNCTIONAL ENGLISH	3(3-0)
IS-401/SSH-306	ISLAMIC STUDIES/ETHICS	2(2-0)
SOC-311	INTRODUCTION TO SOCIALOGY	2(2-0)
EDU-306	CIVICS AND COMMUNITY ENGAGEMENT	2(2-0)
	TOTAL CREDIT HOURS	17

SECOND SEMESTER

COURSE CODE	COURSE TITLE	CREDIT HOURS
BSTAT-302	CATEGORICAL DATA ANALYSIS	3(3-0)
FA-310	INTRODUCCTION TO ARTS AND HUMANITIES	2(2-0)
ENG-314	EXPOSITORY WRITING	3(3-0)
CS-305	APPLICATIONS OF INFORMATION AND COMMUNICATION TECHNOLOGIES	3(2-1)
SSH-303	IDEOLOGY AND CONSTITUTION OF PAKISTAN	2(2-0)
MATH-408	QUANTITATIVE REASONING-I	3(3-0)
PBG-514	BIOMETRY	2(0-2)
	TOTAL CREDIT HOURS	18

THIRD SEMESTER

COURSE CODE	COURSE TITLE	CREDIT HOURS
BSTAT-401	VITAL STATISTICS	3(3-0)
EPH-401	BASICS OF EPIDEMIOLOGY	3(3-0)
PY-307	FUNDAMETALS OF NATURAL SCIENCES	3(2-1)
BMS-402	ENTREPRENEURSHIP	2(2-0)
STAT-408	QUANTITATIVE REASONING-II	3(3-0)
BIOCHEM-515	CLINICAL BIOCHEMISTRY	4(2-2)
IS-402/SSH-403	ترجمة القرآن/INTERFAITH HARMONY	No-Credit
IS-403/SSH-404	روحانیت/ MORAL PHILOSOPHY	No-Credit
	TOTAL CREDIT HOURS	18

FOURTH SEMESTER

COURSE CODE	COURSE TITLE	CREDIT HOURS
BSTAT-402	INTRODUCTION TO BIOMEDICAL RESEARCH	3(3-0)
EPH-501	EPIDEMIOLOGICAL DISEASE MODELLING	3(3-0)
SE-505	MACHINE LEARNING	3(2-1)
MATH-601	NUMERICAL ANALYSIS	3(3-0)
PBG-518	BIOLOGICAL DATA SCIENCE	3(1-2)
BIO-301	ESSENTIAL OF BIOLOGY	3(2-1)
	TOTAL CREDIT HOURS	18

FIFTH SEMESTER

COURSE CODE	COURSE TITLE	CREDIT HOURS
BSTAT-501	SAMPLING TECHNIQUES AND DESIGN	4(4-0)
BSTAT-503	DISTRIBUTION THEORY	4(4-0)

BSTAT-505	REGRESSION AND TIME SERIES ANALYSIS	4(4-0)
BSTAT-507	STATISTICS AND MEDICAL DIAGNOSTICS	3(3-0)
BSTAT-509	INTRODUCTION TO STATISTICAL SOFTWARES	4(0-4)
PBG-613	INTRODUCTION TO QUANTITATIVE GENETICS	2(0-2)
	TOTAL CREDIT HOURS	21

SIXTH SEMESTER

COURSE CODE	COURSE TITLE	CREDIT HOURS
BSTAT-502	BIOSTATISTICAL INFERENCE	4(4-0)
BSTAT-504	DESIGN OF EXPERIMENTS AND BIOASSAY	4(4-0)
BSTAT-506	PROGRMMING WITH R	4(0-4)
BSTAT-508	SURVIVAL ANALYSIS AND MODELING	3(3-0)
BSTAT-510	STATISTICAL QUALITY CONTROL	3(3-0)
MATH-513	OPERATIONS RESEARCH	3(3-0)
	TOTAL CREDIT HOURS	21

SEVENTH SEMESTER

COURSE CODE	COURSE TITLE	CREDIT HOURS
BSTAT-601	MODELING CATEGORICAL DATA	3(3-0)
BSTAT-602	BAYESIAN BIostatISTICS	3(3-0)
BSTAT-603	ANALYSIS OF REPEATED MEASUREMENTS	3(3-0)
BSTAT-604	APPLIED MULTIVARIATE ANALYSIS	4(4-0)
BSTAT-605	DESIGN AND ANALYSIS OF MEDICAL STUDIES	3(3-0)
DA-606	HEALTH ANALYTICS	3(2-1)
	TOTAL CREDIT HOURS	19

EIGHTH SEMESTER

COURSE CODE	COURSE TITLE	CREDIT HOURS
BSTAT-620	SEMINAR	1(1-0)
BSTAT-621	TECHNICAL REPORT/ INTERNSHIP	3(0-3)
BSTAT-622	CAPSTONE PROJECT	3(0-3)
	TOTAL CREDIT HOURS	07

Total Credit Hours for BS Biostatistics (4-Years):

Sem. I	Sem. II	Sem. III	Sem. IV	Sem. V	Sem. VI	Sem. VII	Sem. VIII	Total
17	18	18	18	21	21	19	07	139