

**UNIVERSITY OF AGRICULTURE, FAISALABAD**  
**Department of Mathematics and Statistics**  
**Revised Scheme of Studies for BS Mathematics 2023**

HEC COURSE CATEGORY	UAF SELECTION FOR BS Mathematics		
	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-I I	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
		<b>Total Credit Hours</b>	<b>30</b>
ALLIED-I	PY-303	MECHANICS	4(4-0)
ALLIED-II	STAT-301	INTRODUCTORY STATISTICS	4(4-0)
ALLIED-III	STAT-302	INTRODUCTION TO PROBABILITY THEORY	4(4-0)
ALLIED-IV	PY-503	CLASSICAL MECHANICS	3(3-0)
ALLIED-V	PY-504	ELECTRODYNAMICS-I	3(3-0)
ALLIED-VI	CS-308	PROGRAMMING FUNDAMENTIALS	3(2-1)
ALLIED-VII	STAT-503	PROBABILITY AND DISTRIBUTION THEORY-I	3(3-0)
ALLIED-VIII	STAT-504	PROBABILITY AND DISTRIBUTION THEORY-II	3(3-0)
		<b>Total Credit Hours</b>	<b>27</b>
MAJOR-I	MATH-303	CALCULUS-I	4(4-0)
MAJOR-II	MATH-304	ELEMENTS OF SET THEORY AND MATHEMATICAL LOGIC	4(4-0)
MAJOR-III	MATH-305	CALCULUS-II	3(3-0)
MAJOR-IV	MATH-401	GROUP THEORY	3(3-0)
MAJOR-V	MATH-402	CALCULUS-III	3(3-0)
MAJOR-VI	MATH-403	AFFINE AND EUCLIDEAN GEOMETRY	3(3-0)

MAJOR-VII	MATH-404	LINEAR ALGEBRA	3(3-0)
MAJOR-VIII	MATH-405	DISCRETE MATHEMATICS	4(4-0)
MAJOR-IX	MATH-501	TOPOLOGY	3(3-0)
MAJOR-X	MATH-502	DIFFERENTIAL GEOMETRY AND TENSOR ANALYSIS	3(3-0)
MAJOR-XI	MATH-503	ORDINARY DIFFERENTIAL EQUATIONS	3(3-0)
MAJOR-XII	MATH-504	REAL ANALYSIS	3(3-0)
MAJOR-XIII	MATH-505	RING THEORY	3(3-0)
MAJOR-XIV	MATH-506	PARTIAL DIFFERENTIAL EQUATIONS	3(3-0)
MAJOR-XV	MATH-507	COMPLEX ANALYSIS	3(3-0)
MAJOR-XVI	MATH-508	FUNCTIONAL ANALYSIS	3(3-0)
MAJOR-XVII	MATH-509	ADVANCED REAL ANALYSIS	3(3-0)
MAJOR-XVIII	MATH-513	OPERATIONS RESEARCH	3(3-0)
MAJOR-XIX	MATH-601	NUMERICAL ANALYSIS	3(3-0)
MAJOR-XX	MATH-602	GRAPH THEORY	3(3-0)
MAJOR-XXI	MATH-603	MATHEMATICAL AND STATISTICAL COMPUTING	3(0-3)
MAJOR-XXII	MATH-604	MATHEMATICAL PHYSICS	3(3-0)
MAJOR-XXIII	MATH-605	MATHEMATICAL METHODS	3(3-0)
MAJOR-XXIV	MATH-606	INTEGRAL EQUATIONS	3(3-0)
MAJOR-XXV	MATH-620	SEMINAR	1(1-0)
		<b>Total Credit Hours</b>	<b>76</b>
INTERNSHIP	MATH-621	TECHNICAL REPORT/ INTERNSHIP	3(0-3)
CAPSTONE PROJECT	MATH-622	CAPSTONE PROJECT	3(0-3)
		<b>Grand Total</b>	<b>139</b>

### FIRST SEMESTER

COURSE CODE	COURSE TITLE	CREDIT HOURS
MATH-303	CALCULUS-I	4(4-0)
MATH-304	ELEMENTS OF SET THEORY AND MATHEMATICAL LOGIC	4(4-0)
MATH-408	QUANTITATIVE REASONING-I	3(3-0)
ENG-313	FUNCTIONAL ENGLISH	3(3-0)
PY-303	MECHANICS	4(4-0)
IS-401/SSH-306	ISLAMIC STUDIES/ ETHICS	2(2-0)
TGM-301	TUTORIAL GROUP MEETING FOR SOFT SKILLS	No-Credit
SUB TOTAL		<b>20</b>

**SECOND SEMESTER**

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CREDIT HOURS</b>
MATH-305	CALCULUS-II	3(3-0)
STAT-408	QUANTITATIVE REASONING-II	3(3-0)
ENG-314	EXPOSITORY WRITING	3(3-0)
CS-305	APPLICATION OF INFORMATION AND COMMUNICATION TECHNOLOGIES	3(2-1)
SSH-303	IDEOLOGY AND CONSTITUTION OF PAKISTAN	2(2-0)
EDU-306	CIVICS AND COMMUNITY ENGAGEMENT	2(2-0)
PY-307	FUNDAMENTALS OF NATURAL SCIENCES	3(2-1)
TGM-302	TUTORIAL GROUP MEETING FOR SOFT SKILLS	No-Credit
<b>SUB TOTAL</b>		19

**THIRD SEMESTER**

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CREDIT HOURS</b>
MATH-401	GROUP THEORY	3(3-0)
MATH-402	CALCULUS-III	3(3-0)
MATH-403	AFFINE AND EUCLIDEAN GEOMETRY	3(3-0)
STAT-301	INTRODUCTORY STATISTICS	4(4-0)
PY-503	CLASSICAL MECHANICS	3(3-0)
BMS-402	ENTREPRENEURSHIP	2(2-0)
FA-310	INTRODUCCTION TO ART AND HUMANITIES	2(2-0)
IS-402/SSH-403	ترجمة القرآن/INTERFAITH HARMONY	No-Credit
TGM-401	TUTORIAL GROUP MEETING FOR SOFT SKILLS	No-Credit
<b>SUB TOTAL</b>		20

**FOURTH SEMESTER**

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CREDIT HOURS</b>
MATH-404	LINEAR ALGEBRA	3(3-0)
MATH-405	DISCRETE MATHEMATICS	4(4-0)
PY-504	ELECTRODYNAMICS-I	3(3-0)
STAT-302	INTRODUCTION TO PROBABILITY THEORY	4(4-0)
CS-308	PROGRAMMING FUNDAMENTALS	3(2-1)
SOC-311	INTRODUCTION TO SOCIALOGY	2(2-0)
IS-403/SSH-404	روحانیت/ MORAL PHILOSOPHY	No-Credit
TGM-402	TUTORIAL GROUP MEETING FOR SOFT SKILLS	No-Credit
<b>SUB TOTAL</b>		19

**FIFTH SEMESTER**

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CREDIT HOURS</b>
MATH-501	TOPOLOGY	3(3-0)
MATH-502	DIFFERENTIAL GEOMETRY AND TENSOR ANALYSIS	3(3-0)
MATH-503	ORDINARY DIFFERENTIAL EQUATIONS	3(3-0)
MATH-504	REAL ANALYSIS	3(3-0)
MATH-505	RING THEORY	3(3-0)
STAT-503	PROBABILITY AND DISTRIBUTION THEORY-I	3(3-0)
TGM-501	TUTORIAL GROUP MEETING FOR SOFT SKILLS	No-Credit
SUB TOTAL		18

**SIXTH SEMESTER**

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CREDIT HOURS</b>
MATH-506	PARTIAL DIFFERENTIAL EQUATIONS	3(3-0)
MATH-507	COMPLEX ANALYSIS	3(3-0)
MATH-508	FUNCTIONAL ANALYSIS	3(3-0)
MATH-509	ADVANCED REAL ANALYSIS	3(3-0)
MATH-513	OPERATIONS RESEARCH	3(3-0)
STAT-504	PROBABILITY AND DISTRIBUTION THEORY-II	3(3-0)
TGM-502	TUTORIAL GROUP MEETING FOR SOFT SKILLS	No-Credit
SUB TOTAL		18

**SEVENTH SEMESTER**

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CREDIT HOURS</b>
MATH-601	NUMERICAL ANALYSIS	3(3-0)
MATH-602	GRAPH THEORY	3(3-0)
MATH-603	MATHEMATICAL AND STATISTICAL COMPUTING	3(0-3)
MATH-604	MATHEMATICAL PHYSICS	3(3-0)
MATH-605	MATHEMATICAL METHODS	3(3-0)
MATH-606	INTEGRAL EQUATIONS	3(3-0)
TGM-601	TUTORIAL GROUP MEETING FOR SOFT SKILLS	No-Credit
SUB TOTAL		18

**EIGHTH SEMESTER**

<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CREDIT HOURS</b>
MATH-620	SEMINAR	1(1-0)
MATH-621	TECHNICAL REPORT/ INTERNSHIP	3(0-3)
MATH-622	CAPSTONE PROJECT	3(0-3)
SUB TOTAL		07

**Total Credit Hours for BS Mathematics (4-Years):**

Sem. I	Sem. II	Sem. III	Sem. IV	Sem. V	Sem. VI	Sem. VII	Sem. VIII	<b>Total</b>
20	19	20	19	18	18	18	7	<b>139</b>