

Courses for Spring 2025
UG Mathematics Batch 16 (2025)
Semester – II (19-01-2026 to 24-05-2026)

S.#	Courses	CHs	Instructor	Pre-Requisite
1	MATH-112 Calculus-II	3+0	Dr. Hafiz Muhammad Fahad	
2	MATH-263 Probability Theory	3+0	Prof. Tahir Mahmood	
3	HU-110 English-I	3+0	Dr. Muhammad Ilyas Chishti	
4	CS-114 Fundamentals of Programming	2+1	Dr. Hayat Ali Shsh	
5	HU-222 Professional Ethics	2+0	TVF/Shared Faculty	Sher Bano Ijaz
6	HU-132 Understanding of Quran-II	0+1	TVF/Shared Faculty	
7	HU-101 Islamic Studies	2+0	TVF/Shared Faculty	
	TOTAL:	17		

BS Mathematics Semester – IV (Batch-15, 2024) (19-01-2026 to 24-05-2026)

S.#	Courses	CHs	Instructor	Pre-Requisite
1	MATH-242 Real Analysis-I	3-0	Prof. Matloob Anwar	MATH-111 Calculus-I
2	MATH-264 Introduction to Statistics	3-0	Dr. Firdos Khan	MATH-263 Probability Theory
3	CCE-401 Civic and Community Engagement	1-1		
4	MGT-271 Entrepreneurship	2-0		
5	MATH-252 Ordinary Differential Equations	3-0	Dr. Ahmad Javid	
6	MATH-274 Elementary Number Theory	3-0	Prof. Rashid Farooq	
7	HU-101 Islamic Studies	2+0		

TOTAL: 18

BS Mathematics Semester – VI (Batch-14, 2023) (19-01-2026 to 24-05-2026)

S.#	Courses	CHs	Instructor	Pre-Requisite
1	MATH-325 Group Theory-I	3-0	Dr. Muhammad Ishaq	None
2	MATH-332 Numerical Analysis-I	3-0	Dr. Ahmad Javid	None
3	MATH-353 Partial Differential Equations	3-0	Prof. Meraj Mustafa Hashmi	MATH-251 Ordinary Differential Equations
4	MATH-446 Functional Analysis	3-0	Prof. Matloob Anwar	None
5	MATH-382 Differential Geometry	3-0	New Faculty	None
6	MATH-362 Introduction to Classical Mechanics	3+0	Prof Mubasher Jamil	None

TOTAL: 18

BS Mathematics Semester – VIII (Batch-13, 2022) (19-01-2026 to 24-05-2026)

S.#	Courses	CHs	Instructor	Pre-Requisite
1	MATH-446 Functional Analysis	3-0	Dr. M. Ishaq	None
2	MATH-455 Integral Equations	3-0	Dr. Rizwan Ul Haq	None
3	MATH-457 Mathematical Modelling	3-0	Prof. Tooba Feroze	MATH-251 Ordinary Differential Equations-I

Elective Courses

Elective Courses (Data Science)

1	DS-403 Data Mining for Big Data	2-1	Dr. Hayat Ali Shah	None
2	DS-401 Introduction to Data Science	2-1	Dr. Tahir Mahmood	None

Elective Courses / FYP in Mathematics
(Elective Course Mathematics Stream)

	MATH-499 Final Year Project-II	3-0		
	MATH-434 Numerical Linear Algebra	3-0	Dr. M. Asif Farooq	

BS Phy Batch 12 (2025)				
Semester – II (19-01-2026 to 24-05-2026)				
S.#	Courses	CHs	Instructor	Pre-Requisite
1	MATH-112 Calculus-II	3+0	Dr. Mubasher Jamil	
2	PHY-116 Waves and Optics	2+1	Dr. Faheem Amin	
3	MATH-263 Probability Theory	3+0	Dr. Firdos Khan	
4	HU-141 Introduction to Expository Writing	3+0	Shared Faculty/TVF	
5	HU-222 Professional Ethics	2+0	Shared Faculty/TVF	Sher Bano Ijaz
6	CH-101 Applied Chemistry	2+1	Shared Faculty/TVF from CHEM	
7	HU-132 Understanding of Quran-II	0+1	Shared Faculty/TVF	
TOTAL: 18				

BS Physics Semester – IV (Batch-11, 2024) (19-01-2026 to 24-05-2026)				
S.#	Courses	CHs	Instructor	Pre-Requisite
1	PHY-203 Classical Mechanics I	3+0	Dr. M. Ali Paracha	PHY-106 Mechanics
2	PHY-201 Modern Physics	3+0	TVF	
3	HU-141 Introduction to Expository Writing	3+0	Shared / TVF	
4	PHY-313 Mathematical Methods of Physics-II	3+0	Mr. Huzaifa Bilal (TVF) PhD Student	PHY-212 Mathematical Methods for Physicists I
5	MGT-271 Entrepreneurship	2+0	Shared / TVF	
6	MATH-264 Introduction to Statistics	3+0	Shared / TVF	MATH-263 Probability Theory
TOTAL: 17				

BS Physics Semester – VI (Batch-10, 2023) (19-01-2026 to 24-05-2026)				
S.#	Courses	CHs	Instructor	Pre-Requisite
1	PHY-303 Statistical Mechanics I	3+0	Dr. Fahad Azad	
2	PHY-301 Electrodynamics II	3+0	Dr. Tajammal Hussain	PHY-204 Electrodynamics I
3	PHY-392 Lab-II	0+2	TVF	
4	PHY-413 Solid State Physics-I	3+0	Dr. Muhammad Nauman	
5	PHY-304 Quantum Mechanics-II	3+0	Dr. Faisal Munir	PHY-302 Quantum Mechanics I

Elective Courses				
S.#	Courses	CHs	Instructor	Pre-Requisite
Main Physics Stream				
1	PHY-433 Quantum Information	3+0	Dr. Shahid Iqbal	
OR				
1	PHY-462 General Relativity	3+0	Dr. Saadi Ishaq	
Mathematical Physics Minor				
1	MATH-274 Elementary Number Theory	3+0	Prof. Rashid Farooq	
Data Science Stream				
1	DS-302 Machine Learning for Data Analysis	3+1	TVF	
Experimental Physics & NanoTecnology				
1	PHY-483 Materials Science	3+0	Dr. Faheem Amin	

BS Physics Semester – VIII (Batch-9 2022) (19-01-2026 to 24-05-2026)				
S.#	Courses	CHs	Instructor	Pre-Requisite
1	PHY-499 Project-II	0+3		
2	PHY-471 Atomic, Molecular and Nuclear Physcis	3+0	Dr. Faisal Munir	
3	PHY-423 Solid State Physics-II	3+0	TVF (Ms. Kubra Sattar)	PHY-413 Solid State Physics I
Elective Courses				
Main Physics Stream				
1	PHY-462 General Relativity	3+0	Dr. Saadi Ishaq	
2	PHY-461 Astrophysics	3+0	Dr. Noraiz Tahir	
Mathematical Physics Minor				
1	MATH-455 Integral Equations	3-0	Dr. Rizwan Ul Haq	
2	MATH-457 Mathematical Modeling	3+0	Prof. Tooba Feroze	
Experimental Physics & NanoTecnology				
1	PHY-483 Materials Science	3+0	Dr. Faheem Amin	
2	MSE-471 Vacuum Technology in Surface Engineering	3+0	Shared Faculty from SCME (TVF only SNS)	

Data Science (Minor)				
1	CS-220 Database Systems	3+1	Shared Faculty/TVF	
2	DS-404 Information Visualization	2+1	Shared Faculty/TVF	

BS Chemistry Semester – II (Batch-8, 2025) (19-01-2026 to 24-05-2026)				
(Section A)				
S.#	Courses	CHs	Instructor	Pre-Requisite
1	CH-117 Principles of Organic Chemistry (M)	2+1	New Faculty	
2	CH-118 Principles of Inorganic Chemistry (M)	2+1	M. Siraj	
3	CH-119 Principles of Physical Chemistry	2+1	Dr. Ghulam Hussain	
4	QR-101 Quantitative Reasoning-II	3+0	Dr. Rishi Naeem	
5	HU-141 Introduction to Expository Writing	3+0	Dr. M. Ilyas Chishti	
6	MCG-111 Graphics & Design	2+0	Shared / TVF	Ms Nida Naeem
7	HU-132 Understanding of Quran-II	0+1	Shared / TVF	
Total CHs 18				
BS Chemistry Semester – II (Batch-8, 2025) (19-01-2026 to 24-05-2026)				
(Section B)				
S.#	Courses	CHs	Instructor	Pre-Requisite
1	CH-117 Principles of Organic Chemistry (M)	2+1	New Faculty	
2	CH-118 Principles of Inorganic Chemistry (M)	2+1	M. Siraj	
3	CH-119 Principles of Physical Chemistry	2+1	Dr. Ghulam Hussain	
4	QR-101 Quantitative Reasoning – II	3+0	Dr. Rishi Naeem	
5	HU-141 Introduction to Expository Writing	3+0	Dr. M. Ilyas Chishti	
6	MCG-111 Graphics & Design	2+0	Shared / TVF	Ms Nida Naeem
7	HU-132 Understanding of Quran-II	0+1	Shared / TVF	
Total 18				
BS Chemistry Semester – IV (Batch-7, 2024) (19-01-2026 to 24-05-2026)				
Section - "A"				
S.#	Courses	CHs	Instructor	Pre-Requisite
1	QR-101-Quantitative Reasoning-II	3+0	TVF / shared from other school	
2	MGT 271 Entrepreneurship	2+0	TVF / shared from other school	
3	CH-210 Analytical Chemistry I	3+1	Dr. Syed Shoaib Ahmad Shah	
4	CH-380 Physical Chemistry-I	3+1	Dr. Mussamir Ali Khan	
5	CH-340 Industrial Chemistry	3+0	Dr. Shahid Ali Khan / new	
TOTAL 16				
BS Chemistry Semester – IV (Batch-7, 2024) (19-01-2026 to 24-05-2026)				
Section - "B"				
S.#	Courses	CHs	Instructor	Pre-Requisite
1	QR-101-Quantitative Reasoning-II	3+0		
2	MGT 271 Entrepreneurship	2+0	TVF / shared from other school	
3	CH-210 Analytical Chemistry I	3+1	Dr. Syed Shoaib Ahmad Shah	
4	CH-380 Physical Chemistry-I	3+1	Dr. Mussamir Ali Khan	
5	CH-340 Industrial Chemistry	3+0	Dr. Shahid Ali Khan / new	
TOTAL 16				
BS Chemistry Semester – VI (Batch-6, 2023) (19-01-2026 to 24-05-2026)				
Section "A"				
S.#	Courses	CHs	Instructor	Pre-Requisite
1	CH-382 Physical Chemistry-II	3+1	Dr. Fayaz Ali	
2	CHE-461 Polymer Reaction Engineering	3+0	Other school (SCME)	
3	CH-371 Organic Chemistry-II	3+1	Dr. Shahid Ali Khan / new	
4	CH-333 Computational Chemistry	2+1	Dr. Kashif Majeed	
5	CH-360 Nanochemistry-I	2+0	New 2 Inorganic	
TOTAL 16				
BS Chemistry Semester – VI (Batch-6, 2023) (19-01-2026 to 24-05-2026)				
Section "B"				
S.#	Courses	CHs	Instructor	Pre-Requisite
1	CH-382 Physical Chemistry-II	3+1	Dr. Fayaz Ali	
2	CHE-461 Polymer Reaction Engineering	3+0	Other school (SCME)	
3	CH-371 Organic Chemistry-II	3+1	Dr. Shahid Ali Khan / new	
4	CH-333 Computational Chemistry	2+1	Dr. Kashif Majeed	
5	CH-360 Nanochemistry-I	2+0	New 2 Inorganic	
TOTAL 16				

BS Chemistry Semester – VIII (Batch-5, 2022) (19-01-2026 to 24-05-2026)				
S.#	Courses	CHs	Instructor	Pre-Requisite
1	Research Thesis / Project / Advanced Lab	0+3		
2	MGT-271 Entrepreneurship	2+0	TVF / shared from other school	
Organic Chemistry Stream				
3	Elective-V CH-476 Organic Synthesis II	3+0	Dr. Muddassir	
4	Elective-VI CH-477 Medicinal Chemistry	3+0	Dr. Azhar	
5	*Elective-VII CH-474 Organic Spectroscopy-II	3+0	Dr. Arfan	
Inorganic/Analytical Chemistry Stream				
3	Elective-V CH-451 Chemical Crystallography	3+0	New Inorganic	
4	Elective-VI CH-410 Analytical Techniques-I	3+0	Dr. Muhammad Adil Mansoor	
5	*Elective-VII CH-412 Electrochemical Techniques	3+0	Dr. Ghulam Hussain	
Physical Chemistry Stream				
3	Elective-V CH-480 Solid State Chemistry	3+0	New 2 Inorganic	
4	Elective-VI CH-483 Polymer Chemistry	3+0	New Organic 2	
5	*Elective-VII CH-485 Colloid and Surface Chemistry	3+0	Dr. Fayaz Ali	

* Theses can be opted as Elective -VIII for other chemistry specializations.