

PROGRAMS OFFERED

- BS English
- BS Mathematics
- BS Psychology
- MS Mathematics
- Ph.D Mathematics

MISSION STATEMENT

To enable students to make valuable contributions in their respective field, in particular and the society in general, in light of UN Sustainable Development Goals.

DEPARTMENT OF

BASIC SCIENCES & HUMANITIES

Message From The Head Of Department

Welcome to the Department of Basic Sciences & Humanities at CECOS University, where education is designed to foster intellectual curiosity, critical thinking, and personal development. Our programs go beyond the classroom to prepare students for the demands of the modern world. With a strong focus on analytical and entrepreneurial skills, we aim to empower students to meet academic and professional challenges with confidence. Join us in your pursuit of excellence and make the most of your university experience.

Dr. Nudrat Aamir

Ph.D Mathematics, University of Essex, UK



Prof.Dr. Nudrat Aamir
Professor/Dean OSA/HoD
Doctorate in Applied Mathematics
University of Essex United Kingdom

Dr. Farah Jaffer
Assistant Professor
Doctorate in Applied Mathematics
Shaheed Benazir Bhutto University

Mr. Adnan Hussain (Study Leave)
Lecturer
Ph.D (Progress)
China

Mr. Adnan Wadood
Lecturer
Ph.D Mathematics (in progress)
Bacha Khan University Charsadda

Dr. Haroon Niaz Ali Khan
Lecturer
Ph.D Mathematics
University of Peshawar

Molana Faiz ur Rehman
Lecturer
Master's in Islamiyat & Arabic
University of Peshawar

Mr. Nasrullah
Senior Instructor
BS English
IMSciences

Prof.Dr. Zaheer ud Din
Professor
Doctorate in Applied Mathematics
UET, Peshawar

Dr. Muhammad Jamshed
Assistant Professor
Doctorate in Islamiat
Quartba University, Peshawar

Mr. Sajjad Ahmed Subhan
Lecturer
MS in English
Islamia University

Muhammad Shahkar Khan
Lecturer
Ph.D Mathematics (In Progress)
University of Peshawar

Mr.Riffat Ullah
Lecturer
Ph.D Mathematics (in progress)
Islamia College University Peshawar

Muhammad Ilyas Khalil
Senior Instructor
MS in Pak Studies (In Progress)
University of Peshawar

Mr. Muhammad Hamid
Lecturer
Ph.D (in progress)
Qurtuba University, Peshawar

Mr. Muhammad Anees
Lecturer
M.Phil in English Literature
Forman Christian College University, Lahore.

Ms. Rimsha Gillani
Lecturer
M.Phil Mathematics
Islamia College University Peshawar

Ms. Shadab Aziz Qureshi
Lecturer
MS in English
Qurtuba University

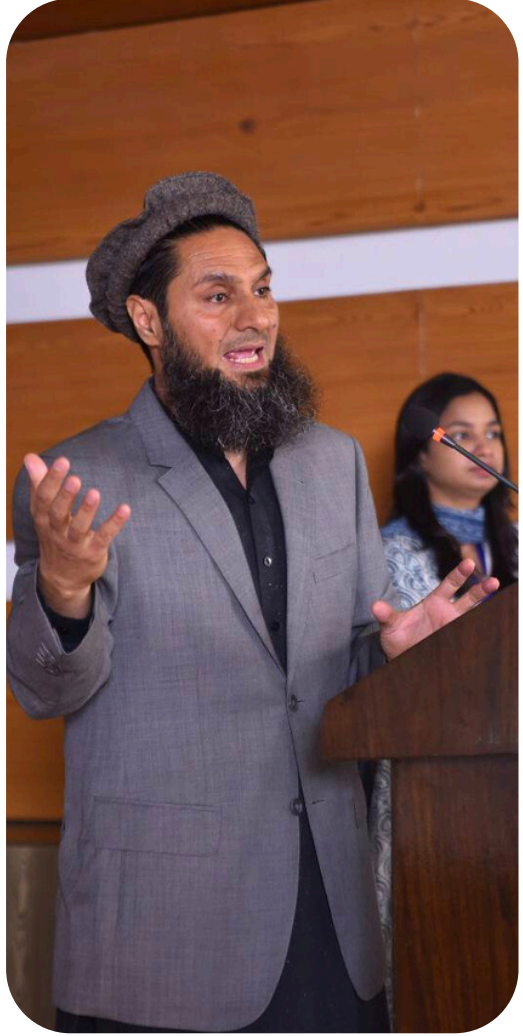
Mr.Taimur Ali Shah
Lecturer (English)
M.Phil English linguistics
Quartuba University, Peshawar

Ms. Mehak Faiz
Senior Instructor
M.Phil in English (in progress)
City University



Events

- Book Fair
- Literary Festival
- Istaqbal-E-Ramazan



FACULTY MEMBERS OF
BASIC SCIENCES & HUMANITIES

CURRICULUM OF BS ENGLISH

Semester-I

Course Code	Course Title	Credit Hours
ENG-101	Functional English	3(3-0)
SS-103	Introduction to History	3(3-0)
MATH-101	Mathematics –I	3(3-0)
SS-109	Introduction to Sociology	2(2-0)
BIO-104	Introduction to Biology	3(2+1)
ENG-113	Introduction to English Literature	3(3-0)
SS-113	Understanding of Holy Quran-I	(0-1)
Total Credit Hours		18

Semester-IV

Course Code	Course Title	Credit Hours
SS-101	Islamic Studies	2(2-0)
ENG-221	Semantics	3(3-0)
ENG-216	History of English Literature-II	3(3-0)
ENG-213	Literary Criticism-I	3(3-0)
SS-203	Ideology and Constitution of Pakistan	2(2-0)
ENG-224	TEFL-II	3(3-0)
ENG-225	Women's Writings	3(3-0)
Total Credit Hours		19

*Students will undertake internships during the summer break after their sixth semester. Consequently, the evaluation of their internship will be incorporated into their eight-semester after the submission of their internship reports to the respective department.

Semester-VII

Course Code	Course Title	Credit Hours
ENG-411	Post-Colonial Literature	3(3-0)
ENG-413	Creative Writing	3(3-0)
ENG-421	Pragmatics	3(3-0)
ENG-422	Phonetics and Phonology	3(3-0)
ENG-491	Research Methodology	3(3-0)
Total Credit Hours		15

Semester-II

Course Code	Course Title	Credit Hours
MGT-246	Introduction to Entrepreneurship	2(2-0)
SS-104	Introduction to Philosophy	2(2-0)
MATH-102	Mathematics –II	3(3-0)
CS-191	Applications of Information & Communication Technology	3(2+1)
SS-204	Civics & Community Engagement	2(2-0)
ENG-115	History of English Literature-I	3(3-0)
ENG-121	Introduction to Linguistics	3(3-0)
SS-207	Understanding of Holy Quran-II	(0-1)
Total Credit Hours		19

Semester-V

Course Code	Course Title	Credit Hours
ENG-312	English Drama	3(3-0)
ENG-313	Literary Criticism-II	3(3-0)
ENG-326	Psycholinguistics	3(3-0)
ENG-322	Sociolinguistics	3(3-0)
ENG-314	English Novel	3(3-0)
LLB-101	Introduction to Law	3(3-0)
Total Credit Hours		18

Semester-VIII

Course Code	Course Title	Credit Hours
ENG-492	Research Project	3(3-0)
ENG-415	American Literature	3(3-0)
ENG-416	Pakistani Literature	3(3-0)
ENG-424	Introduction to Forensic Linguistics	3(3-0)
SS-401	Internship	3(3-0)
Total Credit Hours		15

Semester-III

Course Code	Course Title	Credit Hours
SS-108	Introduction to Psychology	3(3-0)
ENG-211	English Poetry	3(3-0)
ENG-222	Morphology and Syntax	3(3-0)
ENG-223	TEFL-I	3(3-0)
ENG-102	Expository Writing	3(3-0)
SS-102	Pakistan Studies	2(2-0)
Total Credit Hours		17

Semester-VI

Course Code	Course Title	Credit Hours
SS-206	Introduction to Journalism	3(3-0)
ENG-315	English Prose	3(3-0)
ENG-324	Language Teaching Methodologies	3(3-0)
ENG-325	Discourse Analysis	3(3-0)
ENG-321	Stylistics	3(3-0)
ENG-316	Critical Reading Towards Critical Writing	3(3-0)
Total Credit Hours		18

CURRICULUM OF BS MATHEMATICS

Semester-I

Course Code	Course Title	Credit Hours
MATH-121	Calculus-I	4+0
MATH-122	Elements of Set theory and Mathematical Logic	3+0
ENG-101	Functional English	3+0
MATH-124	Discrete Mathematics	3+0
SS-109	Introduction to Sociology(Social Sciences)	2(2+0)
NS-100	Introduction to Physics (Natural Sciences)	3(2+1)
SS-113	Understanding of Holy Quran-I	0+1
Total Credit Hours		19

Semester-IV

Course Code	Course Title	Credit Hours
MGT-431	Entrepreneurship	2(2+0)
MATH-225	Linear Algebra	3+0
MATH-224	Real Analysis-I	3+0
MGT-111	Fundamentals of Accounting (Interdisciplinary)	3+0
MATH-227	Classical Mechanics	3+0
SS-203	Ideology & Constitution of Pakistan	2(2+0)
MATH-320	Ordinary Differential Equations	3+0
Total Credit Hours		19

*Students will undertake internships during the summer break after their sixth semester. Consequently, the evaluation of their internship will be incorporated into their seventh-semester before the submission of their internship reports to the respective department.

Semester-VII

Course Code	Course Title	Credit Hours
MATH-420	Numerical Analysis-II	3(2+1)
MATH-421	Integral Equations	3+0
MATH-226	Measure Theory	3+0
MATH-423	Research Methodology	3+0
MATH-425	Mathematical Methods	3+0
SS-401	Internship	3+0
Total Credit Hours		18

Total Credit Hours = 140

Fact File

Duration: Four Years
Eligibility: Minimum 45% marks in Intermediate or equivalent.
Passing aptitude test of CECOS.

Semester-II

Course Code	Course Title	Credit Hours
MATH-123	Calculus-II	4+0
CS-191	Application to Information & Communication Technology	3(2+1)
SS-204	Civics & Community Engagement	2(2+0)
ENG-102	Expository Writing	3+0
SS-101	Islamic Studies/Ethics	2+0
NS-111	Basic of Electricity & Magnetism(Interdisciplinary)	3+0
SS-114	Understanding of Holy Quran-II	0+1
Total Credit Hours		18

Semester-V

Course Code	Course Title	Credit Hours
MATH-326	Partial Differential Equation	3+0
MATH-321	Complex Analysis-I	3+0
MATH-323	Real Analysis-II	3+0
MATH-322	Affine and Euclidean Geometry	3+0
MATH-324	Rings and Fields	3+0
Total Credit Hours		15

Semester-III

Course Code	Course Title	Credit Hours
MATH-221	Calculus-III	4+0
MATH-222	Symbolic Computation	3+0
MATH-211	Probability and Statistics (Interdisciplinary)	3+0
SS-105	Introduction to Economics (Interdisciplinary)	3+0
SS-104	Introduction to Philosophy (Art & Humanities)	2(2+0)
MATH-223	Group Theory	3+0
Total Credit Hours		

Semester-VI

Course Code	Course Title	Credit Hours
MATH-422	Mathematical Statistics	3+0
MATH-327	Numerical Analysis-I	3(2+1)
MATH-330	Topology	3+0
MATH-329	Number Theory	3+0
MATH-325	Complex Analysis-II	3+0
MATH-328	Graph Theory	3+0
Total Credit Hours		18

Semester-VIII

Course Code	Course Title	Credit Hours
MATH-426	Computational Fluid Dynamics	3+0
MATH-427	Functional Analysis	3+0
MATH-428	**(E-1)Optimization Theory	3+0
MATH-429	**(E-2)Mathematical Modelling and Simulations	3+0
MATH-431	Research Project	3+0
Total Credit Hours		15

CURRICULUM OF BS PSYCHOLOGY

Semester-I

Course Code	Course Title	Credit Hours
ENG-101	Functional English	3(3-0)
SS-103	Introduction to History	3(3-0)
MATH-101	Mathematics –I	3(3-0)
SS-109	Introduction to Sociology	2(2-0)
BIO-104	Introduction to Biology	3(2+1)
PSY-113	Fundamentals of Psychology	3(3-0)
SS-113	Understanding of Holy Quran-I	(0-1)
Total Credit Hours		18

Semester-II

Course Code	Course Title	Credit Hours
MGT-246	Introduction to Entrepreneurship	2(2-0)
SS-104	Introduction to Philosophy	2(2-0)
MATH-102	Mathematics –II	3(3-0)
CS-110	Applications of Information and Communication Technology	3(2+1)
SS-204	Civics and Community Engagement	2(2-0)
PSY-115	Educational Psychology	3(3-0)
PSY-121	History and Schools of Psychology	3(3-0)
SS-114	Understanding of Holy Quran-II	(0-1)
Total Credit Hours		19

Semester-III

Course Code	Course Title	Credit Hours
SS-218	Elementary Statistics	3(3-0)
PSY-211	Experimental Psychology	3(3-0)
PSY-222	Neurological Basis of Behavior	3(3-0)
PSY-223	Muslim Contributions in Psychology	3(3-0)
ENG-102	Expository Writing	3(3-0)
SS-102	Pakistan Studies	2(2-0)
Total Credit Hours		17

Semester-IV

Course Code	Course Title	Credit Hours
SS-101	Islamic Studies/Ethics	2(2-0)
PSY-221	Developmental Psychology	3(3-0)
PSY-216	Theories of Personality	3(3-0)
PSY-213	Mental Health & Psychopathology – I	3(3-0)
SS-203	Ideology and Constitution of Pakistan	2(2-0)
PSY-224	Social Psychology	3(3-0)
PSY-225	Ethics in Psychology	3(3-0)
Total Credit Hours		19

Semester-V

Course Code	Course Title	Credit Hours
PSY-312	Mental Health & Psychopathology – II	3(3-0)
PSY-313	Counseling and Mental Health	3(3-0)
PSY-326	Psychological Testing & Assessment – I	3(3-0)
PSY-322	Environmental Psychology	3(3-0)
PSY-314	Clinical Psychology	3(3-0)
LLB-101	Introduction to Law	3(3-0)
Total Credit Hours		18

Semester-VI

Course Code	Course Title	Credit Hours
PSY-415	Sports Psychology	3(3-0)
PSY-315	Community Mental Health	3(3-0)
PSY-324	Psychological Testing & Assessment – II	3(3-0)
PSY-325	Positive Psychology	3(3-0)
PSY-321	Application of Statistics in Psychology	3(3-0)
PSY-316	Research Methodology in Psychology	3(3-0)
Total Credit Hours		18

*Students will undertake internships during the summer break after their sixth semester. Consequently, the evaluation of their internship will be incorporated into their eight-semester after the submission of their internship reports to the respective department.

Semester-VII

Course Code	Course Title	Credit Hours
PSY-411	Consumer Psychology	3(3-0)
PSY-413	Industrial and Organizational Psychology	3(3-0)
PSY-421	Health Psychology	3(3-0)
PSY-422	Cross-Cultural Psychology	3(3-0)
PSY-491	Fieldwork/Internship	3(3-0)
Total Credit Hours		15

Semester-VIII

Course Code	Course Title	Credit Hours
PSY-492	Cognitive Psychology	3(3-0)
PSY-416	Gender issues in Psychology	3(3-0)
PSY-424	Forensic Psychology	3(3-0)
SS-401	Capstone/Research Project	3(3-0)
Total Credit Hours		12

Total Credit Hours = 136

Fact File **Duration:** Four Years
Eligibility: Minimum 45% marks in Intermediate or equivalent.
Passing aptitude test of CECOS.



DEPARTMENT OF BASIC SCIENCES & HUMANITIES

The department offers the folowing graduate degree programs:

- MS Mathematics
- PhD Mathematics

MS Mathematics

The degree program is of a 2-year duration and spans for 16-18 weeks semesters. Total credit hours for the program are 30 (i.e., 24 credit hours of coursework plus 6 credit hours of thesis and research in case of MS by research Plan-A).

In Year-II, selected students will embark on a thesis project (i.e., on basis of their CGPA, as well as synopsis defence); others will have to opt for the non-thesis track (i.e., all 30 credit hours derived from coursework Plan-B). Students with unsatisfactory performance in their thesis research will be shifted to the non-thesis track.

Scheme of Studies

MS students must accumulate the required 30 credit hours as per the following distribution:

Plan-A

Catagory	Cr.Hrs
Core Subjects	12
Elective Subjects	12
Thesis	06
Total credit hours	30

Plan-B

Catagory	Cr.Hrs
Core Subjects	12
Elective Subjects	12
Additional Subjects	06
Total credit hours	30

PhD Mathematics

PhD is a 3 year degree program, during which the scholar must successfully complete 54 credit hours (18 credit hours course work and 36 credit hours research) beside other requirements as stipulated by the HEC and the University rules & regulations.

CURRICULUM OF MS MATHEMATICS

Pure Mathematics

Course Code	Course Title	Credit Hours
MATH-641	Rings and Modules	3
MATH-642	Lie Algebras & Lie Groups	3
MATH-643	Field Extensions & Galois Theory	3
MATH-644	Linear Groups & Group Representations	3
MATH-645	Homotopy Theory	3
MATH-646	Topological Groups	3
MATH-647	Homological Theory	3
MATH-648	Lattice Theory	3
MATH-649	Representation Theory	3
MATH-650	BCK Algebra	3

Reading and Research

Course Code	Course Title	Credit Hours
MATH-	Reading & Research-MATH1	3
MATH-	Reading & Research-MATH2	3
MATH-	Reading & Research-MATH1	3
MATH-	Reading & Research-MATH2	3
MATH-	Reading & Research-MP1	3
MATH-	Reading & Research-MP2	3

Thesis

Course Code	Course Title	Credit Hours
MATH-	Thesis	6

Eligibility Criteria:

- Minimum 16-year education in relevant field with minimum 2.0 CGPA or 60% marks from University recognized by HEC
- Qualifying GAT-General Test of CECOS University or any other approved testing body (INTS/ETEA)

Course Code	Course Title	Credit Hours
MATH-651	BCI Algebra	3
MATH-652	Advanced Theory of Rings and Modules	3
MATH-653	Spectral Theory in Hilbert spaces – I	3
MATH-654	Spectral Theory in Hilbert spaces – II	3
MATH-655	Harmonic Analysis	3
MATH-656	Banach Algebras-I	3
MATH-657	Banach Algebras-II	3
MATH-658	Advanced Measure Theory	3
MATH-659	Advanced Number Theory	3
MATH-660	Combinatorics	3

Non-Credit Courses

Course Code	Course Title	Credit Hours
MATH-	Seminar Attendance	3
MATH-	Seminar Delivered-G	3
MATH-	Seminar Delivered-T	3
MATH-	Seminar Delivered-R	3

CURRICULUM OF MS MATHEMATICS

Pure Mathematics

Course Code	Course Title	Credit Hours
MATH-641	Rings and Modules	3
MATH-642	Lie Algebras & Lie Groups	3
MATH-643	Field Extensions & Galois Theory	3
MATH-644	Linear Groups & Group Representations	3
MATH-645	Homotopy Theory	3
MATH-646	Topological Groups	3
MATH-647	Homological Theory	3
MATH-648	Lattice Theory	3
MATH-649	Representation Theory	3
MATH-650	BCK Algebra	3

Course Code	Course Title	Credit Hours
MATH-651	BCI Algebra	3
MATH-652	Advanced Theory of Rings and Modules	3
MATH-653	Spectral Theory in Hilbert spaces – I	3
MATH-654	Spectral Theory in Hilbert spaces – II	3
MATH-655	Harmonic Analysis	3
MATH-656	Banach Algebras-I	3
MATH-657	Banach Algebras-II	3
MATH-658	Advanced Measure Theory	3
MATH-659	Advanced Number Theory	3
MATH-660	Combinatorics	3

Reading and Research

Course Code	Course Title	Credit Hours
MATH-	Reading & Research-MATH1	3
MATH-	Reading & Research-MATH2	3
MATH-	Reading & Research-MATH1	3
MATH-	Reading & Research-MATH2	3
MATH-	Reading & Research-MP1	3
MATH-	Reading & Research-MP2	3

Non-Credit Courses

Course Code	Course Title	Credit Hours
MATH-	Seminar Attendance	3
MATH-	Seminar Delivered-G	3
MATH-	Seminar Delivered-T	3
MATH-	Seminar Delivered-R	3

M.Phil Thesis

Course Code	Course Title	Credit Hours
MATH-	Thesis	6

CURRICULUM OF PhD MATHEMATICS

Core Courses

Course Code	Course Title	Credit Hours
MATH-701	Advanced Algebra	3
MATH-702	Advanced Functional Analysis	3
MATH-703	Advanced Graph Theory	3
MATH-704	Advanced Mathematical Statistics	3
MATH-705	Advanced Partial Differential Equations	3
MATH-706	Algebraic Number Theory	3
MATH-707	Numerical Linear Algebra	3
MATH-708	Numerical Solutions of Ordinary Differential Equations	3
MATH-709	Numerical Solutions of Partial Differential Equations	3
MATH-710	Theory of Fluids	3
MATH-711	Integral Transforms and their Application	3

Optional Courses

Course Code	Course Title	Credit Hours
MATH-801	Advanced Fluid Dynamics	3
MATH-802	Advanced Mathematical Methods	3
MATH-803	Advanced Plasma Physics	3
MATH-804	Advanced Probability and Probability Distributions-I	3
MATH-805	Advanced Probability and Probability Distributions-II	3
MATH-806	Advanced Ring Theory	3
MATH-807	Algebraic Topology	3
MATH-808	Analytical Dynamics-I	3
MATH-809	Analytical Dynamics-II	3

Course Code	Course Title	Credit Hours
MATH-810	Applied Functional Analysis	3
MATH-811	Applied Graph Theory	3
MATH-812	Banach Algebra	3
MATH-813	Computational Methods	3
MATH-814	Integral Equations	3
MATH-815	Large Scale Scientific Computation	3
MATH-816	Mathematical Techniques for Boundary Value Problems	3
MATH-817	Multivariate Analysis	3

CURRICULUM OF Ph.D MATHEMATICS

Core Courses

Course Code	Course Title	Credit Hours
MATH-701	Advanced Algebra	3
MATH-702	Advanced Functional Analysis	3
MATH-703	Advanced Graph Theory	3
MATH-704	Advanced Mathematical Statistics	3
MATH-705	Advanced Partial Differential Equations	3
MATH-706	Algebraic Number Theory	3
MATH-707	Numerical Linear Algebra	3
MATH-708	Numerical Solutions of Ordinary Differential Equations	3
MATH-709	Numerical Solutions of Partial Differential Equations	3
MATH-710	Theory of Fluids	3
MATH-711	Integral Transforms and their Application	3

Optional Courses

Course Code	Course Title	Credit Hours
MATH-801	Advanced Fluid Dynamics	3
MATH-802	Advanced Mathematical Methods	3
MATH-803	Advanced Plasma Physics	3
MATH-804	Advanced Probability and Probability Distributions-I	3
MATH-805	Advanced Probability and Probability Distributions-II	3
MATH-806	Advanced Ring Theory	3
MATH-807	Algebraic Topology	3
MATH-808	Analytical Dynamics-I	3
MATH-809	Analytical Dynamics-II	3

Course Code	Course Title	Credit Hours
MATH-810	Applied Functional Analysis	3
MATH-811	Applied Graph Theory	3
MATH-812	Banach Algebra	3
MATH-813	Computational Methods	3
MATH-814	Integral Equations	3
MATH-815	Large Scale Scientific Computation	3
MATH-816	Mathematical Techniques for Boundary Value Problems	3
MATH-817	Multivariate Analysis	3

Eligibility Criteria:

- Minimum 18-year Master Degree (Research Based) in relevant field with minimum 3 CGPA from HEC recognized University.
- Those who have Completed Master degree by course work will be required to publish one research paper in HEC recognized Journal prior to admissions.

