

Department of Statistics

Introduction

Statistics was first introduced at Government College Lahore in 1955 under the auspices of Ch. Sultan Buksh who was the Chairperson of the Department of Mathematics. In 1956, the Department of Mathematics was renamed as the Department of Mathematics and Statistics, under the Chairpersonship of Dr. Lal Muhammad Chawla, a prominent Educationist and Mathematician. The teaching of Statistics was limited to Degree classes in those days.

The Department of Statistics started working independently in 1964. Prof. Sher Muhammad Chaudhry was appointed as Chairperson. Under his guidance, the Department continued to progress and the Postgraduate Program was launched in 1987. Mr. Abdul Sabur took over charge as Chairperson and served the Department from 1990 to 1998. Since 1998, Prof. Dr Muhammad Khalid Pervaiz took over the charge as chairperson in 1998 and completed almost fifteen years as chairperson fully comprised of new ideas in research and academic. He initiated and launched MPhil Program in 1999 and PhD Program later. His efforts were untiring, constants and steady.

The Department has been organizing refresher courses for teachers of Statistics for many years. In 1986, a Summer School was also organized to train Postgraduate teachers in Statistics. The Department is also rendering invaluable services to the Directorate of Staff Development (DSD), the Pakistan Institute of Statistical Training and Research (PISTAR), the National Institute of Public Administration (NIPA), the Educational Management Education Information System (EMIS) and the Higher Education Commission (HEC).

The Department also imparts instructions to faculty members from other Departments such as the Departments of Computer Science, Economics, Management Studies, Psychology and Clinical Psychology.

Mission Statement

To develop quality teaching and research of Applied/Theoretical Statistics for the enhancement of Economy, Health, Industry and Agricultural sectors.

Academic Programmes

The Department of Statistics offers following degree programmes:

- BSc (Hons.)
- MSc
- MPhil
- PhD



Research activities are being carried out continuously since 1998 onwards. The staff and the students of Statistics department have contributed more than 60 research papers in various international journals and national journals of international repute. At present, 178 BSc (Hons.) (2006-2016), 214 MSc (1997-2016), 177 MPhil and 8 PhD theses have been successfully completed and passed out since 1998. Students are availing chances of internship at Punjab and Federal Bureau of Statistics, Banks NGO's, Industry and different government departments.

Research Groups

Following research groups are actively working in the Department of Statistics:

- Bio Statistics
- Design and Analysis of Experiments
- Econometric Models
- Industrial Statistics
- Probability Distributions
- Statistical Inference
- Survey Sampling
- Survival Analysis
- Time Series Analysis and Forecasting

Facilities

Library

The GCU Library offers easy access to all research material and books on unique topics. The Statistics Section of the Library holds numerous updated research journals and publications catering to almost every need of students conducting research or preparing assignments. This Section of the Library stocks more than 5,000 books at present.

Statistics Laboratories

The Department of Statistics in collaboration with Management Studies Department has set up state-of-the-art and well equipped Computer Lab. Latest Statistical Packages like SPSS, MATHEMATICA, E-VIEWS, STATISTICA, STATA, MINITAB and R Language etc. are available in this Laboratory. Department of Statistics has installed 2 Multimedia for the sake of projecting Lectures, Seminars, Presentations and theses Viva examinations. Facility of scanners is also available in the department.

Special Features

Statistics Society

The Statistics Society was established in 1987 to solve the problems of students and to encourage academic and co-curricular activities at the Department. The Society arranges seminars on different topics by eminent professionals on regular basis. Statistics society is also active in arranging functions and Study tours to various industries like Mitchell's Fruit Farms and Khewara Mines. Statistics Society has been functioning as one of the prestigious Departmental societies of the University for many years. The mission of the Society is to flourish the managerial skills of students. The Society organizes several events/activities including invited lectures, seminars, symposiums, workshops, departmental sports gala (Annually) and Research festivals (Poster Competition) to reveal the innate talent of the Varsity's students for noble cause.

Seminars/Lectures/Workshops

The Department of Statistics has always been regular in organizing research and learning activities. The Department has been organizing seminars of prominent Statisticians. Our participants include Prof. Dr. Kazim Khan (Kent State University,

USA), Prof. Dr. A.Z. Memon, Prof. Dr. Muhammad Hanif Mian and Prof. Dr. G.R. Pasha. The Department also has the honor of successfully holding a National and an International Conference on Statistical Sciences with special reference to Survival Data Analysis. Recently Director General of Punjab Bureau of Statistics, Mr. Shamim Rafique and Director, Mr. Sajid Rasul delivered a lecture on the use of various statistical methods while collecting the data from the field and different techniques for checking the accuracy of the data collected.

Journal of Statistics

Journal of Statistics is a research journal published annually by the Department of Statistics, GC University, Lahore. Its first issue was published in 1993. Journal is recognized by Higher Education Commission (HEC) of Pakistan and is currently placed in Y category. It is going to be placed in X category as all the necessary formalities have been completed. Our Journal is now indexed in EBSCO Publishing data namely; Academic Search Complete. Journal is also available on Factiva and affiliated international databases through Asia-Net Pakistan as well.

Career Scope/Opportunities

A Higher Degree in the subject of Statistics is the need of the day. Degree holders can join departments in the public and private sectors like Education, Provincial and Federal Bureau of Statistics, State Bank of Pakistan, Agriculture Census and the National Database and Registration Authority (NADRA), Medical Colleges and Hospitals as Bio-Statisticians, Marketing Research Organizations etc.

BSc (Hons)		
Year-1		
Semester-I		
Course Code	Course Title	Credit Hours
STAT-1101	Introductory Statistics	3
Semester-II		
Course Code	Course Title	Credit Hours
STAT-1201	Introduction to Probability Distributions	3
Year-2		
Semester-III		
Course Code	Course Title	Credit Hours
STAT-2201	Applied Statistics	3
Semester-IV		
Course Code	Course Title	Credit Hours
STAT-2101	Basic Statistical Inference	3
STAT-2202	Statistical Packages – I (Excel & SPSS)	3



Year-3		
Semester-V		
Course Code	Course Title	Credit Hours
STAT-3101	Probability and Probability Distribution-I	3
STAT-3102	Sampling Techniques-I	3
STAT-3103	Non-Parametric Methods	3
STAT-3104	Design and Analysis of Experiments-I	3
STAT-3105	Regression Analysis (Linear Models)	3
STAT-3106	Statistical Packages-II (STATISTICA & MINITAB)	2
Semester-VI		
Course Code	Course Title	Credit Hours
STAT-3201	Probability and Probability Distribution-II	3
STAT-3202	Sampling Techniques-II	3
STAT-3203	Design and Analysis of Experiments-II	3
STAT-3204	Econometrics	3
STAT-3205	Population Studies	3
STAT-3206	Statistical Packages-III (E-View & MATHEMATICA)	3
Year-4		
Semester-VII		
Course Code	Course Title	Credit Hours
STAT-4101	Statistical Inference - I	3
STAT-4101P	Statistical Inference - I	1
STAT-4102	Survey and Research Methods	3
STAT-4109	Multivariate with Softwares (STATISTICA & MINITAB)	3
STAT-4299	Research Project / Internship	3
	Elective-I	3
	Elective-II	3
Any two of the following Courses		
STAT-4103	Actuarial Statistics-I	3
STAT-4104	Bio-Statistics	3
STAT-4105	Operations ~Research	3
STAT-4106	Statistical Quality Control	3
STAT-4107	Stochastic Process	3
Semester-VIII		
Course Code	Course Title	Credit Hours
STAT-4201	Statistical Inference-II	3
STAT-4201P	Statistical Inference-II	1
STAT-4202	Applied Multivariate Analysis	3
STAT-4299	Project / Internship	3
	Elective-III	3
	Elective-IV	3
Any two of the following Courses		
STAT-4203	Actuarial Statistics-II	3
STAT-4204	Categorical Data Analysis	3
STAT-4205	Reliability Analysis	3
STAT-4206	Survival Analysis	3
STAT-4207	Time Series Analysis and Forecasting	3
STAT-4208	Bayesian Statistics	3
STAT-4210	Statistical Computing using R	3

Allied Courses		
Year-I		
Semester-I		
Course Code	Course Title	Credit Hours
STAT-I101	Introductory Statistics	3
Semester-II		
Course Code	Course Title	Credit Hours
STAT-I201	Introduction to Probability Distributions	3
Year-2		
Semester-III		
Course Code	Course Title	Credit Hours
STAT-2201	Applied Statistics	3
Semester-IV		
Course Code	Course Title	Credit Hours
STAT-2101	Basic Statistical Inference	3
MPhil		
Year- I		
Semester-I		
Course Code	Course Title	Credit Hours
STAT-7101	Multivariate Analysis	3
STAT-7102	Sampling Techniques	3
STAT-7103	Survey Research Methods	3
STAT-7105	Data Analysis using Computer Soft-Wares	3
STAT-7106	Distribution Theory	3
STAT-7107	Statistical Analysis using R	3
STAT-7213	Bio-Statistics	3
Semester-II		
(Courses of 12 Credit Hours will be studied)		
Course Code	Course Title	Credit Hours
STAT-7104	Statistical Theory	3
STAT-7201	Statistical Quality Control	3
STAT-7202	Time Series Analysis	3
STAT-7203	Contingency Table Analysis	3
STAT-7204	Applied Regression Analysis	3
STAT-7205	Causal Models	3
STAT-7206	Linear Statistical Models	3
STAT-7207	Regression Methods	1.5
STAT-7208	Survival Data Analysis	1.5
STAT-7209	Generalized Linear Models	3
STAT-7210	Categorical Data Analysis	3
STAT-7211	Industrial Statistics	1.5
STAT-7212	Survival Models	3
STAT-7214	Bayesian Statistics	3
STAT-7215	Reliability Theory	3
Note		
1 – Any one of STAT-7103 or STAT-7104		
2 – Any one of STAT-7202 or STAT-7203		
3 – Any one of STAT-7204 or STAT-7205		
Year-2		
Semester-III & IV		
Course Code	Course Title	Credit Hours
STAT-7499	Thesis	12

MSc		
Year-I		
Semester-I		
Course Code	Course Title	Credit Hours
STAT-301	Probability and Probability Distributions—I	3
STAT-302	Sampling Techniques—I	3
STAT-303	Design and Analysis of Experiments—I	3
STAT-304	Statistical Methods	3
STAT-305	Computer Languages and Packages (R, MS Office, SPSS)	2
STAT-301P	Probability and Probability Distributions—I	1
STAT-302P	Sampling Techniques—I	1
STAT-303P	Design and Analysis of Experiments—I	1
STAT-304P	Statistical Methods	1
Semester-II		
Course Code	Course Title	Credit Hours
STAT-351	Probability and Probability Distributions—II	3
STAT-352	Sampling Techniques—II	3
STAT-353	Design and Analysis of Experiments—II	3
STAT-354	Econometrics	3
STAT-355	Non Parametric Methods	2
STAT-351P	Probability and Probability Distributions—II	1
STAT-352P	Sampling Techniques—II	1
STAT-353P	Design and Analysis of Experiments—II	1
STAT-354P	Econometrics	1
Year-2		
Semester-III		
Course Code	Course Title	Credit Hours
STAT-401	Statistical Inference—I	3
STAT-402	Multivariate Analysis	2
STAT-403	Research Methods	3
STAT-404	Bio Statistics*	3
STAT-405	Time Series and Forecasting*	3
STAT-401P	Statistical Inference—I	1
STAT-402P	Multivariate Analysis	1
STAT-499	Thesis/Internship/Project	3
Semester – IV		
Course Code	Course Title	Credit Hours
STAT-451	Statistical Inference—II	3
STAT-452	Population Studies	2
STAT-453	Statistical Quality Control	3
STAT-454	Survival Analysis	3
STAT-451P	Statistical Inference—II	1
STAT-452P	Population Studies	1
STAT-499	Thesis/Internship/Project	3

*Student may opt any one of the two courses. Any one of two courses may be offered on the availability of the teacher.

PhD		
Year-I		
Semester I (Any Three Courses will be studied)		
Course Code	Course Title	Credit Hours
STAT-8101	Probability Distributions and Survival Analysis	3
STAT-8102	Time Series Models and Econometrics	3
STAT-8103	Fertility and Population Studies	3
STAT-8104	Ordered Random Variables	3
STAT-8105	Mixed Models	3
STAT-8106	Research & PhD Studies	3
Semester-II (Any Three Courses will be studied)		
Course Code	Course Title	Credit Hours
STAT-8201	Calibrated Estimators in Sampling	3
STAT-8202	Reliability Analysis	3
STAT-8203	Quantitative Methods	3
STAT-8204	Quality Management & Quality Assurance	3
STAT-8205	Accuracy, Bias and Non-Response in Surveys	3
STAT-8206	Selected Topics in Econometrics	3

Faculty

Department of Statistics
In Charge & Assistant Professor
 Dr. Hina Khan
Assistant Professor
 Dr. Nighat Zahra
 Amina Shahzadi
Lecturer
 Dr. Muhammad Kashif Ali Shah
 Yasar Mahmood
 Dr. Tahir Abbas Malik
 Maliha Butt
 Shan-E-Fatima
 Zeeshan Ali
Visiting/Adjunct Faculty
 Masood Amjad Khan
 Inam-ul-Haq
 Dr. Azeem Ali
 Dr. Muhammad Shahzad Chaudhary
 Haseeb-Ur-Rehman
 Hamza Islam
 Dr. Muhammad Riaz Ahmad
 Dr. Abdul Qayyum
 Dr. Muhammad Azam

