



Bangladesh Institute of Governance and Management (BIGM)

Short Training Course on
Data Analytics and Modeling with R



Training Course using Virtual Platform

Course Background

Vision of BIGM is to become a center of excellence in teaching and research on policy options regarding governance and development and to establish an effective, transparent and accountable public service in Bangladesh.

The mission of BIGM is focused on enhancing the human capital through impactful training and knowledge dissemination. In this regards, BIGM launched its first short training course on “Data Analytics with R and Python” on March, 2019 and already successfully completed three batches. This training is provided by a dedicated team of researchers. Now, we are heading towards to begin our 4th batch of this online short training course on “Data Analytics and Modeling with R”. This course aims to provide training on statistical modeling in R for professionals who either work with real data or want to acquire necessary skills in data analytics.

Course Objectives:

- Providing intermediate and advanced training on statistical modeling in R
- Enhancing the skills of professionals or students on data analytics

Learners will be able to learn:

- Run statistical models advanced data visualization techniques using real data in R
- Conduct empirical research in Economics, Social Sciences, and Business
- Enhance both intermediate and advanced statistical modeling skills

Course is designed for:

- Researchers from both academic and non-academic institutions
- People working in consultation, research firms and software companies
- People engaged in financial industries and R&D of private sectors
- People involved in NGOs, GOB and market research programs
- Applicants intend to learn statistical computing for PhD/higher studies

Course Details

Saturday & Tuesday (7.30pm - 9.00pm)

Duration: 10 Sessions in Five weeks (20 hours)

Course Team Members

Course Adviser

Dr. Mohammad Tareque, Director, BIGM

Course Director

Dr. Krishna Gayen, Wing Chief (Research), BIGM

Key Resource Persons

Sima Rani Dey
Assistant Professor

Sima Rani Dey completed her M.Sc. in Statistics from Jahangirnagar University and M.S from National Graduate Institute for Policy Studies (GRIPS), Japan. Macroeconomics issues are her research interest. She also has good command in SPSS, Eviews, Minitab, STATA, R, MATLAB etc.

Mazharul Islam
Research Associate

Mazharul Islam completed his M.Sc. in Applied Statistics from University of Dhaka. He has contributed software packages in R statistical software. He also has good command in STATA, Eviews, SPSS, MATLAB etc.

Tanzila Sultana
Research Associate

Tanzila Sultana did M.Sc. in economics from Jahangirnagar University. She has advance knowledge on conducting statistical analysis using STATA, Eviews, R. Her research interests are Behavioral and Experimental Economics, Labor Economics and Education.

Faroque Ahmed
Research Associate

Faroque Ahmed has completed his graduation & post-graduation in Statistics from the Islamic University, Kushtia. He does his research works applying Big Data Analytics and Machine Learning techniques. He also has good command in EViews, STATA, SPSS, R and Python.

Course Module

Session	Chapters	Sessions Details
Session-1 July 3, 2021	Basic Functionalities in R	Basic Functionalities in R Installation of R, user interface, basic R programming, data frames and matrices, cleaning and reading data in R from different file types and exploratory analysis.
Session-2 July 6, 2021	Data Summarization in R	Data Summarization in R Data entry, cleaning, sub setting and handling the problem of missing data will be discussed in this session.
Session-3 July 10, 2021	Visualization in R	Visualization in R Data visualization is one of the simplest yet power tools to depict the behavior of data. Histograms, charts, plotting with multiple layers, aesthetics, visualization using ggplot2 R are the key topics to be discussed in this session.
Session-4 July 13, 2021	Hypothesis Testing in R	Hypothesis Testing in R Hypothesis testing in R ranges from one & two population mean test, non-parametric test, chi-square test of association, ANOVA to MANOVA. It helps to formulate hypotheses and test it in using real world data.
Session-5 July 17, 2021	Linear & Logistic Regression in R	Linear & Logistic Regression in R Regression is used widely in real world decision making. Building linear regression model, checking the assumptions of linear regression model, model validation, variable selection, logistic regression, and variable selection for logistic regression are the main topics to be discussed in this session.
Session-6 July 24, 2021	Time Series Regression in R	Time Series Regression in R How to prepare data for time series analysis with time variable, decompose a series into different components, auto-correlation, non-stationarity and seasonal or cyclic variability and ARIMA.
Session-7 July 27, 2021	Panel Regression in R	Panel Regression in R Panel modeling in different forms using different estimators (Fixed vs. Random).
Session-8 July 31, 2021	Machine Learning in R	Machine Learning in R Different types of classifiers including binary classifier, random forest classifier and boosting techniques. Neural network framework, which was developed from idea of human learning mechanism using neurons, will also be taught.
Session-9 August 3, 2021	Multivariate Analysis in R	Multivariate Analysis in R What Multivariate Analysis is, data reduction techniques like factor analysis and principal component analysis (PCA).
Session-10 August 7, 2021	SEM in R	SEM in R SEM analysis using path model, confirmatory factor analysis, structural regression model, mediation effect and moderation effect.

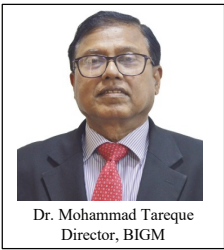
Other Quantitative and Methodological Training Courses provided by Research Wing of BIGM:

Quantitative Analysis with STATA



Research Methodology for Young Researchers

Data Analytics and Modeling with Python



Dr. Mohammad Tareque
Director, BIGM

BIGM is headed by Dr. Mohammad Tareque, former Finance Secretary of the Government of Bangladesh. He also served as an Alternate Executive Director, World Bank. Under his dynamic leadership and visionary thinking, BIGM is contributing to the nation with its academic excellence, research and training potentials.



Dr. Krishna Gayen
Senior Research Fellow, BIGM



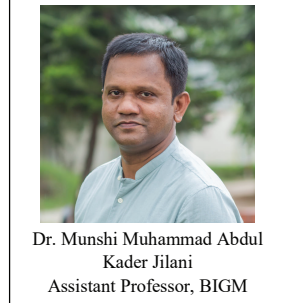
Ms. Tahmina Sultana
Research Fellow, BIGM



Mr. Md. Monirul Islam
Assistant Professor, BIGM



Ms. Mowshumi Sharmin
Research Associate, BIGM



Dr. Munshi Muhammad Abdul
Kader Jilani
Assistant Professor, BIGM



Ms. Sima Rani Dey
Assistant Professor, BIGM



Mr. Md. Mazharul Islam
Research Associate, BIGM



Mr. Faroque Ahmed
Research Associate, BIGM



Ms. Tanzila Sultana
Research Associate, BIGM

Address: E-33, Agargaon, Sher-E-Bangla Nagar, Dhaka-1207
Email: info@bigm.edu.bd, Web: www.bigm.edu.bd
Facebook: /BIGMofficial
Phone: 880-2-48116857, 48113589, 48115073
Ext: 102, 106, 107, 114