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DEPARTMENT OF TELEVISION, FILM AND  
PHOTOGRAPHY  
UNIVERSITY OF DHAKA

**Course: TFP-301: Quantitative Research Methods for Media Studies**

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**Course Instructor** : Md Hasinur Rahaman Khan, MSc (Warwick) PhD (Warwick)  
Professor, Applied Statistics, ISRT, University of Dhaka  
**Lecture time** : Monday 1:00 PM – 4:00 PM (Room: )  
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**Assessment outline:**

Mid-term	:	25
Assignment	:	10
Presentation	:	10
Attendance	:	5
Final exam	:	50

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Total	:	100
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**Text Books** : 1. *Business Research Methods*  
William G. Zikmund,  
Thomson, 7th Edition, 2003.

2. *Basic Business Statistics-Concepts and Applications*  
Mark L. Berenson, David M. Levine and Timothy C. Krehbiel,  
Pearson Education, Inc, 10th edition, 2005.

**Grading system** : University grading policy.

## Overview

The main objective of this course is to provide a comprehensive understanding of a myriad of analytical statistical tools that can be used to deal with data arising in research study. The course provides a comprehensive introduction to research, types of research and quantitative research methodologies in social science. Students in this course learn about how to select research problem, steps in conducting research and how to develop a research design and proposal. It will also discuss data collection, tools, drafting survey questionnaires, how to conduct survey, analyse the survey data and write a report on the findings from data analysis. Basic statistical measures and some techniques of interesting results and ways of drawing conclusion are also discussed. It will emphasize survey research so that students can conduct audience and opinion surveys.

# Objectives

- To gain insight into how scientific research is conducted
- To learn how to collect primary and secondary data
- To present data in a clear and meaningful way
- To understand the basic statistics involved in data presentation and analysis
- To learn about the probabilistic models underlying data
- To determine how different random quantities interact with each other
- To make statistically sound conclusions based on your data
- To test the significance, validity, reliability of the research results

# Expected Outcomes

Students will be able to apply the concepts and methods described in the syllabus, to identify and solve research questions relevant to Television and Film studies using statistical tools, and to gain ability to critically evaluate current research and propose possible alternative directions for further work, to gain ability to develop hypothesis and methodology for research, to gain ability to comprehend and deal with complex research issues in order to communicate their scientific results clearly for peer review.

# Detailed Syllabus

**Research and Methods**–Meaning of research, meaning of theory, concepts of methods and methodologies, problem definition, research process, type of research, formulation of research proposal, tools and techniques of exploratory research.

**Data Collection Methods and Techniques** Primary and secondary Sources of data, different methods to collect data–mail questionnaire, personal interview, telephone interview, principles of interviewing, Basic concept of statistics, Population, Sample, Two branches of statistics, Types of data, Reasons for drawing a sample, Levels of measurement and measurement scales, Types of sampling methods, Advantages and disadvantages.

**Data Analysis and Interpretation** Presenting Data in Tables and Charts–Tables and charts for categorical data, Tables and charts for numerical data. Numerical Descriptive Measures–Measures of central tendency, Variation, and Shape, Population Summary Measures, Five Number Summary and Box-and-whisker Plot, Covariance and Coefficient of Correlation. Basic Probability–Basic probability concepts and definitions, Conditional probability. Fundamentals of Hypothesis Testing: One-Sample Tests–What is a hypothesis?, the null hypothesis, the alternative hypothesis, level of significance, errors in making decisions-Type-I and Type-II, Hypothesis tests for the mean. Two-Sample Tests. Hypothesis Tests for Proportions Two-Sample Mean Tests. Simple Linear Regression–Simple linear regression model, Simple linear regression example, Predictions using regression analysis, Measures of variation, Coefficient of determination, Assumptions of regression, Residual analysis, autocorrelation, inference. Multiple Linear Regression.

**Team Project Presentation** Each team needs to (i) find a research question related to Television and Film studies research, (ii) design questionnaire, (iii) select sample size based on a sampling design, (iv) conduct a survey by any method–interviewing/telephoning/online/mail, (v) enter the raw data in EXCEL sheet and conduct statistical analysis using descriptive statistics, graphs, tables, correlation, regression, and hypothesis testing, (vi) present the findings in class using Power Point presentation in the prescribed week.

## Weekly Lecture Plan (tentative):

Week 1:	<b>Theory Building; The Research Process, Ethical Issues</b>
Lecture 1a	What is research, What is a Theory, The Scientific Methods
Lecture 1b	Types of Research, Stages of Research Processes, Flowcharting the Research Process, Ethical Considerations in Business Research
Week 2:	<b>Problem Definition and the Research Proposal; Exploratory Research and Qualitative Analysis; Secondary Data</b>
Lecture 2a	The Problem Definition, The Problem Definition Process, The Research Proposal
Lecture 2b	The Purposes of Exploratory Research, Tools and Techniques of Exploratory Research, Secondary Data
Week 3:	<b>Survey Research; Basic Methods of Communications with Respondents</b>
Lecture 3a	Surveys, Random Sampling Error and Systematic Error, Response Bias
Lecture 3b	Types of Survey Research Methods, Other Survey Types
Week 4:	<b>Measurement and Scaling Concepts; Sample Design and Sampling Procedure</b>
Lecture 4a	Measurement and Scaling, Category Scales, Designing a Questionnaire, Phrasing Questionnaires
Lecture 4b	Sampling, The Sampling Frame, Sampling Errors, Types of Sampling Methods
Week 5:	<b>Presenting Data in Tables and Charts</b>
Lecture 5a	Tables and Charts for Categorical Data
Lecture 5b	Tables and Charts for Numerical Data
Week 6:	<b>Numerical Descriptive Measures</b>
Lecture 6a	Measures of Central Tendency, Variation, and Shape
Lecture 6b	Population Summary Measures
Week 7:	<b>Numerical Descriptive Measures Cont..., Basic Probability</b>
Lecture 7a	Five Number Summary and Box-and-whisker Plot, Covariance and Coefficient of Correlation
Lecture 7b	Basic Probability Concepts and Definitions, Conditional Probability
Week 8:	<b>Midterm</b>
Lecture 8a	Exam
Lecture 8b	Exam Question Feedback
Week 9:	<b>Fundamentals of Hypothesis Testing: One-Sample Tests</b>
Lecture 9a	What is a Hypothesis? The Null Hypothesis, The Alternative Hypothesis, Level of Significance, Errors in Making Decisions-Type-I and Type-II
Lecture 9b	Hypothesis Tests for the Mean
Week 10:	<b>Fundamentals of Hypothesis Testing: One-Sample Tests Cont..., Two-Sample Tests</b>
Lecture 10a	Hypothesis Tests for Proportions
Lecture 10b	Two-Sample Tests
Week 11:	<b>Simple Linear Regression</b>
Lecture 11a	Simple Linear Regression Model, Simple Linear Regression Example, Predictions using Regression Analysis
Lecture 11b	Measures of Variation, Coefficient of Determination, Assumptions of Regression
Week 12:	<b>Simple Linear Regression Cont..., Multiple Linear Regression</b>
Lecture 12a	Residual Analysis, Autocorrelation, Inference
Lecture 12b	Multiple Linear Regression
Week 13:	<b>Team Project/Assignment Work Presentation</b>
Week 14:	<b>Wrapping Up the Course</b>

- Supplementary Books** :
1. *Quantitative Research Methods in the Social Sciences*  
Paul S. Maxim,  
Oxford University Press, 1st edition, 1999.
  2. *Social Research Methods: Qualitative and Quantitative Approaches*  
Neuman W. L.,  
7th Edition, 2009.