UNIVERSITY OF MANAGEMENT & TECHNOLOGY

**DEPARTMENT OF GENDER STUDIES**

**GS-610 QUANTITATIVE RESEARCH METHODS**

**Capsule Statement:**

Quantitative Research Methods provides basic training in the gathering, description and analysis of quantitative information in the social, business, management and financial sciences. This course is structured to enable students to develop advanced quantitative research skills which have relevance to higher degrees by research. It covers a review of elements in the research process, an overview of multivariate methods, screening data for missing values and normality, exploratory factor analysis, multivariate analysis of variance (MANOVA), multiple regression analysis, logistic regression, and structural equation modeling. There is a strong emphasis on the use of statistical tools in data analysis and interpretation using computer packages; ethical issues in research; and reporting research results.

**Objectives:**

The basic purpose of the course is to enable students to

* Know the organization of quantitative data (e.g., tables, graphs)
* Understand methods for summarizing and/or describing data with respect to central tendency, dispersion, and association
* The appropriate use of standard inferential procedures in order to make generalizations from sample data to a larger population
* An introduction to the use of statistical control
* The use of statistical software to perform data analysis

**Content:**

1. **Different philosophical stand points in Social Science Research**
   1. Quantitative-Qualitative debate in Philosophical Backdrop: Implication for future direction of social science Research.
   2. Mix methods in research: Challenges & Issues.
2. **Defining Research Problem**
   1. Elements of research topic
   2. Value of research
   3. Theoretical basis of the suggested work
3. **Review of literature-Different forms and connection with other parts of research**
   1. Explanation about the variables of the study, especially when the chosen variables have multiple interpretations.
   2. Establish the connection of the phenomenon under study with theory/theories.
   3. Synthesis of previous research to appreciate the work and criticize the relevant part of the research process.
4. **Issues of Sampling in Quantitative Research**
   1. Different types of probability Sampling.
   2. Developing a sampling frame.
   3. Deciding sample size
   4. Sampling error
5. Tool Development
   1. Research Tools- From Measurement Perspective
   2. Research Tools- Framework development
   3. Reliability and Validity Debates (Methodological Perspective)
6. **Research Designs**
   1. Concept
   2. Causation and Logic
   3. Issues of internal and external Validity of research
7. **Research Designs: Experimental** 
   1. Pre-experimental
   2. True Experimental
   3. Qusai Experimental
   4. n-subject experimental design
   5. Factorial Designs
   6. Longitudinal and Cross-Sectional Research designs.
8. **Difference between Descriptive and inferential Statistic**
9. **Introduction to SPSS**
   1. Preparing a code book
   2. Preparing data file
10. **Screening and cleaning the data**
    1. Checking for errors
    2. Finding and correcting error in data file.
11. **Descriptive Statistic**
    1. Categorical variable
    2. Continues Variable
    3. Missing data
    4. Assessing Normality
    5. Checking for Outliers
12. **Choosing a right Statistic**
    1. Nonparametric test
    2. Parametric tests

**Suggested Readings:**

Andrews, R. (2003*) Research Questions.* Great Britain: MPG Books, Bodmin, Cornwall

Cramer, D. (2003). *Advanced quantitative data analysis.* Maidenhead, England: Open University Press.

Delanty, G. (2005). *Social science: Philosophical and methodological foundations (2nd ed.).* Maidenhead, England: Open University Press.

Denscombe, M. (2010). *The good research guide: For small-scale social research projects (4th Ed.).* Maidenhead, England: McGraw-Hill Professional Publishing.

Frederick J Gravetter, Larry B. Wallnau (2013) Essentials of Statistics for the Behavioral Sciences.

Gliner, J. A., Morgan, G. A., & Leech, N. L. (2009). *Research methods in applied settings: An integrated approach to design and analysis.* United Kingdom: Routledge Academic.

Goertz, G., & Mahoney, J. (2012). *A tale of two cultures: Qualitative and quantitative research in the social sciences.* United States: Princeton University Press.

Grinnell, R. M., & Unrau, Y. A. (2005). *Social work research and evaluation: Quantitative and qualitative approaches.* Oxford: Oxford University Press.

Hart, C. (1998). *Doing a literature review: Releasing the social science research imagination.* London: Sage Publications.

Healey, J. F. (2009). *Statistics: A tool for social research.* Belmont, CA: /Wadsworth.

Jarausch, K. H., & Hardy, K. A. (1991). *Quantitative methods for historians: A guide to research, data, and statistics.* Chapel Hill: University of North Carolina Press.

Jensen, K. B. (Ed.). (2011). *The handbook of media and communication research: Qualitative and quantitative methodologies (2nd Ed.).* New York: Taylor & Francis.

Newman, I., & Benz, C. R. (1998). *Qualitative-quantitative research methodology: Exploring the interactive continuum.* New York, NY, United States: Southern Illinois University Press.