Z 408C – RESEARCH METHODOLOGY AND BIOSTATISTICS

UNIT I   INTRODUCTION TO SCIENTIFIC RESEARCH

1. Characteristics and types of scientific research
2. Basics of research methodology
3. Research and Experimental design
4. Method of Data collection

UNIT II   STATISTICAL METHODS AND DATA ANALYSIS

1. Definition and scope, Organizing a statistical survey and presentation of statistically analysed information
2. Basic statistical methods: Measures of central tendency, dispersion and standard error; Probability distributions: binomial, poisson and normal distribution
3. Statistical significance: Hypothesis testing, types of error, level of significance, Student's t test, ANOVA and Chi square goodness of fit
4. Simple linear regression and correlation analysis

UNIT III   NON PARAMETRIC STATISTICS AND COMPUTING

1. Comparing Parametric and Non parametric statistics, Rank test, F -max test, Mann –Whitney (U) test, and Sign test
2. Applications of non parametric statistics in biological research
3. Basic computing: MS Office ®, Internet
4. Data base management, Use of computers in statistical analysis

UNIT IV   SCIENTIFIC PRESENTATIONS AND PRACTICES

1. Scientific Deliveries and Communications: Writing Research proposal, Paper, Thesis, Report and Citations
2. Fundraising in the field of Animal sciences
3. Presenting scientific research: Power point presentations, Posters, Flyers, etc.
4. Publication processes, Review Processes and Significance of scientific communications