Semester:	4		
Course Code:	ENCM 22802		
Course Name:	Basic Statistics for Environmental Studies		
Credit Value:	2		
Status:	Compulsory		
Pre-requisite:	None		
Co-requisite:	None		
Hourly Breakdown:	Theory	Practical	Independent Learning
	20	30	50

Intended Learning Outcomes:

After completion of this course unit, the student will be able to;

1. describe the importance of statistical methods in making decisions,
2. calculate descriptive statistics of data,
3. select and apply an appropriate statistical test for analysis of data,
4. analyze data using appropriate statistical software packages, and,
5. interpret results and make conclusions.

Course Content:

Introduction to Statistics, Elements of descriptive and inferential statistics. Data collection by Probability sampling techniques; simple random sampling, stratified sampling, cluster sampling, and systematic sampling. Introduction to Population and sample, Data collection by Non-probability sampling techniques; convenient sampling, judgmental sampling, snowball sampling, and volunteer sampling. Data display by graphical and tabular methods. Introduction to the normal distribution, Basic statistical tests for data analysis; z-test, t-tests, one-way analysis of variance (ANOVA), chi-square test, and correlation analysis.

Practical sessions on estimating descriptive statistics of given data sets, testing for normal distribution, and Analysis of given data sets using MINTAB/R software.

Teaching /Learning Methods:

Interactive Teaching Sessions, Computer lab sessions, Supplementary Lecture Support Materials and reference materials are distributed through CAL and Individual lab reports.

Assessment Strategy:

Continuous assessment and end of semester examination. Percentage given for each sub-component indicates the percent contribution to the final marks

Continuous Assessment	Final Assessment
20 %	80 %

Details:	Theory	Practical	Other
Assignments 10 Practical reports 10	65	15	-

Recommended Readings:

1. Fowler, J. & L. Cohen (1994). Practical Statistics for Field Biology, 2nd edition, Open University Press.
2. Weaver, K. F., V. Morales, S. L. Dunn, K. Godde & P. F. Weaver (2017). An Introduction to Statistical Analysis in Research: with applications in the biological and life Sciences. John Wiley & Sons.
3. Zar, J. H. (2010). Biostatistical analysis. 5th Edition. Pearson