Name of the Program: M.Sc. Marine Microbiology
Course Code: MMI-507
Title of the Course: Mathematics and Statistics in Biology - Practical
Number of Credits: 01
Effective from AY : 2022 - 23

Prerequisites for the course:	Basic ability to handle numbers and calculation.	
Objective:	Handling and processing of biological data for statistical analysis.	
Content:	1. Statistical analysis and its applications. (9 hrs, Ref 1-6) 2. Regression analysis (6 hrs, Ref 1-3) 3. Normal distribution (6 hrs, Ref 1-3) 4. Hypothesis testing (9 hrs, Ref 1-3)	30 hrs
Pedagogy:	Laboratory experiments/field studies	
References/ Readings:	1. Kothari, C.R. (2013). Quantitative Techniques, Vikas Publishing House, Noida. 2. Arora, P.N. and Malhan, P.K. (2012). Biostatistics, Himalaya Publishing House, New Delhi. 3. Surya, R.K. (2010). Biostatistics for Health and Life Sciences, Himalaya Publishing House, New Delhi. 4. Basic Tasks in Excel - https://support.microsoft.com/en-us/office/basic-tasks-in-excel-dc775dd1-fa52-430f-9c3c-d998d1735fca 5. Grapher User's Guide, 2020 – Golden Software, LLC USA, www.GoldenSoftware.com 6. Surfer 12 Full User's Guide, 2014 - Golden Software, LLC USA, www.GoldenSoftware.com	
Course Outcomes:	1. Process and analyse data using different statistical tools for its application in microbiology-related experiments. 2. Use simple regression analysis for examining data related to standard graphs. 3. Apply normal distribution analysis to appropriate scientific problems. 4. Analyse biological problems statistically by examining their hypotheses using appropriate tests.	