

Name of the Program: M.Sc. Marine Microbiology

Course Code: MMI-522

Title of the Course: Marine Virology - Practical

Number of Credits: 01

Effective from AY : 2022 - 23

Prerequisites for the course:	The student should be familiar with the concepts in basic chemistry and should be able to use basic instruments in Microbiology.	
Objective:	This course develops the skills for handling bacterial viruses.	
Content:	1. Isolation of marine bacteriophages by double agar layer method (3 hrs; Ref 1-3) 2. Purification of bacteriophages (3 hrs; Ref 1-3) 3. Phage growth curve and Titration of phage lysate (plaque assay) (12 hrs; Ref 1-3) 4. Phage structural protein profile (12 hrs; Ref 4)	30 hrs
Pedagogy:	Experiments in the laboratory	
References/ Readings:	1. Mahy, B.W.J. and Kangro, H.O. (1996). Virology Methods Manual, Academic Press, N.Y. 2. Goldstein, G., Wm. C. (1992). Introductory Experiments in Virology, Brown & Benchmark Publishers, Ohio. 3. Burleson, F.G., Chambers, T.M. and Wiedbrauk, D.L. (2014). Virology: A Laboratory Manual, Elsevier, Netherlands. 4. Wilson, K. and Walker, J. (2013). Principles and Techniques of Biochemistry and Molecular Biology, Cambridge University Press, N.Y., USA.	
Course Outcomes:	1. Demonstrate working with marine samples for isolation of bacteriophages. 2. Discuss various techniques for bacteriophage characterization. 3. Identify the phases of phage growth curve. 4. Design work plan for bacteriophage work from environmental sample.	