

**UNIVERSITI TEKNOLOGI MARA****MIC654: AQUATIC AND MARINE MICROBIOLOGY**

Course Name (English)	AQUATIC AND MARINE MICROBIOLOGY APPROVED	
Course Code	MIC654	
MQF Credit	3	
Course Description	This course will cover two main parts namely, aquatic and marine microbiology. Topics covered include distribution of microorganisms in aquatic and marine ecosystems, standard methods currently used in microbiological analysis of water. The cause of aquatic and marine pollution and their respective treatment methods are highlighted. Current methods in water purification are also discussed.	
Transferable Skills	Determining water quality based on the presence of bacterial indicators. determining Biological Oxygen Demand (BOD) and Carbon Oxygen Demand (COD) on waste water. performing bacteriological analysis on different source of water using standard plate count (SPC), Most Probable Number (MPN) and Coliform test. Skills developed during practical classes and assessed by practical observations.	
Teaching Methodologies	Lectures, Discussion, Project-based Learning	
CLO	CLO1 1. Relate the basic terminology use in aquatic and marine microbiology visually and verbally CLO2 2. Describe and explain the principles involved in aquatic and marine water quality standards CLO3 3. Explain and describe methods in water treatment CLO4 4. Observe and conduct scientific investigation in water microbiology based on standard methods CLO5 5 .Present , analyse, interpret and discuss data of laboratory experiment and in report them in scientific writing	
Pre-Requisite Courses	No course recommendations	
Reading List	Recommended Text	• Jacquelyn G. Black 2012, <i>Microniology: Principles and explorations</i>, 8th Ed., Wiley • Raina M. Maier, Ian L. Pepper and Charles P. Gerba 2009, <i>Environmental Microbiology</i>, 2nd Ed., Elsevier
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	