

Agenda: Biological Treatment Fundamentals

In Partnership with Water Environment Federation



This online eLearning course is being offered in partnership with Water Environment Federation (WEF).

Summary - The Biological Treatment Fundamentals course reviews the different types of microorganisms and environmental conditions for secondary treatment of wastewater in treatment ponds or with fixed film treatment. These chapters are a subset of the Wastewater Treatment Fundamentals I: Liquid Treatment course.

Estimate to Complete - 13 hours

Chapter 5: Fundamentals of Biological Treatment - Biological treatment depends on a healthy community of bacteria and other microorganisms to produce a final, treated effluent that is clean and clear with very little biochemical oxygen demand and total suspended solids remaining. This chapter describes some of the different types of microorganisms and environmental conditions present in different types of biological secondary treatment processes.

Chapter 6: Wastewater Treatment Ponds - Wastewater treatment ponds (also called lagoons) are commonly used to treat municipal wastewater from small or rural communities with populations of fewer than 20,000 residents; however, they are capable of treating a variety of wastewaters from domestic wastewater to complex industrial wastes. They can operate in various climatic conditions, from the tropics to the arctic. Ponds may be combined with other treatment processes, or operate as standalone systems. In this chapter, we will explore the various types and implementations of treatment ponds.

Chapter 7: Fixed Film Treatment - Trickling filters and rotating biological contactors (RBCs) are fixed-film processes, which are used at many water resource recovery facilities (WRRFs). Fixed-film biological treatment processes remove dissolved organics and finely divided organic solids from wastewater. Removal occurs primarily by converting soluble and colloidal material into a biological film. This biological film, or biofilm, is attached to solid surfaces of support media. Fixed-film processes may also remove ammonia, nitrite, and nitrate.

Final Assessment - Students need to answer 70% of the questions correct to pass the final assessment and receive credit for the Biological Treatment Fundamentals course.

BTF: End of Course Survey (not included in est. 13 hours) - After passing the final assessment, students are directed to an end of course survey to evaluate the learning experience and provide license information to ensure the information in the LMS is correct.

Course Schedule: Biological Treatment Fundamentals

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Estimate to Complete - 13 hours

Module Title	Average Time to Complete
Chapter 5: Fundamentals of Biological Treatment	4 hours
Chapter 6: Wastewater Treatment Ponds	4 hours
Chapter 7: Fixed Film Treatment	5 hours
Final Assessment	4 hours
BTF: End of Course Survey (not included in est. 13 hours)	Not applicable