

BIOLOGICAL NUTRIENT SYSTEM REMOVAL

INTRODUCTION

Most sewage treatment plants function to remove carbonaceous pollutant and to an extent nitrogenous compounds. However, in recent days, there is a need to design and provide sewage treatment plants to remove nitrogenous compounds and phosphorus to meet environmental quality demands and protecting public health. One way to achieve this is by biological nutrient removal process incorporated into the sewage treatment systems. A good understanding of the system and processes involved is pertinent for operators to optimize the process to achieve the desired results.

COURSE OBJECTIVES

This course is designed to emphasize the importance of biological nutrient removal for environmental quality protection and to provide knowledge and understanding on biological nutrient removal processes for the relevant personnel.

COURSE CONTENTS

- Need for Biological Nutrient Removal Process
- Overview of Typical Sewage Treatment System and Biological Nutrient Removal Process
- Types of Biological Nutrient Removal Process
- Biological Nitrogen Removal Process
- Enhanced Biological Phosphorus Removal Process
- Process Control
- Troubleshooting
- Safe Operation Practices



LEARNING OUTCOMES

After completion of the course, participants must be able to:

- Explain the types of nutrient that affects quality of sewage treatment processes
- Explain the need for the nutrient removal
- Identify the types of nitrogen and phosphorus removal system at various treatment plants
- Describe nitrification and denitrification process
- Describe biological and chemical phosphorus removal process
- Monitoring and troubleshooting nitrification and denitrification process

DURATION

1 day

METHODOLOGY

Course will be conducted through classroom lecture and discussion.

WHO SHOULD ATTEND

This course is recommended for all technical staffs who are involved in operating sewage treatment system that has biological nutrient removal processes, supervisors and above.

ASSESSMENT

Written assessment will be conducted at the end of the training session.

COURSE FEE

RM550.00 per pax