WW 101

Foundation 45 hours 3 modules · 21 lessons

Permits, Collection Systems & Primary Treatment

Virginia licensing and VPDES permits, wastewater characteristics, collection and lift stations, headworks, and primary treatment and ponds.

45	3	21	1,335	105	9	1,167
HOURS OF TRAINING	MODULES	LESSONS	STUDY CARDS	SCENARIOS	3D SIMULATORS	EXAM QUESTIONS

COURSE OBJECTIVES

By the end of this course you will be able to:

1. Describe Virginia operator licensing and the VPDES permit: limits, sampling points, DMRs and reporting clocks.
2. Characterize wastewater (BOD, TSS, nutrients, temperature) and calculate loads and percent removal.
3. Explain collection-system layout, lift-station operation and H_2S/crown corrosion.
4. Operate and troubleshoot bar screens, grit removal and flow measurement.
5. Calculate primary clarifier detention time, overflow rate and sludge pumping.
6. Manage facultative and aerated ponds and lagoons through seasons.
7. Explain bypass, power-failure reliability and pretreatment concepts.

WHAT YOU WILL LEARN

Licensing & permits
VPDES, DMRs, reliability classes and records.

Characterization
BOD, TSS, flow, loading and removal calculations.

Collection & preliminary
Lift stations, screening, grit and H_2S.

Primary treatment
Clarifiers, sludge pumping and CEPT.

Ponds & lagoons
Layers, day–night DO and seasonal operation.

Exam readiness
Practice questions and timed WPI-style mock exams by class.

MAJOR TOPICS COVERED

Module 1	Virginia Licensing, Permits, Regulations & Utility Management	7 lessons
Module 2	Wastewater Characteristics, Collection Systems & Preliminary Treatment	7 lessons
Module 3	Primary Treatment, Ponds & Lagoons	7 lessons

COURSE HIGHLIGHTS

- **45 hours** of structured, self-paced instruction with active-time tracking.
- **9 interactive 3D simulators** — rotate, explode and cut away real equipment, then change the controls and watch the numbers respond.
- **105 field scenarios** with background, decision points and worked answers.
- **1,335 study cards**, 21 printable checklists and hands-on calculators.
- **1,167 practice questions** with timed, exam-style mock tests.

WHO IT'S FOR

New and entry-level wastewater operators and operators-in-training; supports preparation for the Virginia Wastewater Works Operator exams (Classes 4–1).

BEFORE YOU START

None. Take this course first in the Wastewater track.

WHERE TO NEXT

WW 102 — Biological, Nutrient & Advanced Treatment

Start learning Create a free account at tryetech.com, open **Wastewater Operator Prep** and begin with Module 1.