

- **Class III Curriculum:**

Operation of Wastewater Treatment Plants, Volume II:

Chap 11 - Activated Sludge, Lesson 6, 11.84, and 8 (Fourth Edition) or Lessons 5, 11.8 and 7 (Fifth Edition)

Chap 12 - Sludge Digestion and Solids Handling, Lessons 1 & 3

Chap 16 - Laboratory Procedures and Chemistry, Lessons 5 - 9

Chap 20 - Treatment Plant Administration - Fifth Edition

Appendix - Math

Advanced Waste Treatment:

Chap 1 - Odor Control

Chap 3 - Solids Management, Lesson 1 - 5

Chap 5 - Phosphorus Removal

Chap 6 - Nitrogen Removal

Chap 7 - Enhanced Biological (Nutrient) Control

APC&EC Regulation 3 (*PDF File*)

The following items are subjects and skills a person should know and understand before taking the Class - III examination - Need to know all Class I and Class II N-T-K plus the following:

1. Regulations

- Federal regulations for:
 - Pretreatment
 - OSHA
 - NPDES permits
 - Industrial
 - Prohibited Discharge
 - EPA
- State (APC&EC Regulation 3 (*PDF File*))
- Local regulations
- Standard Practices for Examination of Water and Wastewater

2. Industry

- Industrial Regulations
- Industrial treatment processes

3. Biology

- Types of Bacteria in the Activated Sludge and Digester processes
 - Types of microorganisms in the Secondary Treatment processes
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4. Chemistry

- Gases and compounds found in waste treatment

5. Laboratory

- Sampling methods
- Water Quality examinations
- Laboratory safety

6. Activated Sludge

- Process operation
- Identification
- Observation

7. Mathematics

- MCRT
- Detention Time
- Volume
- Organic loading
- Hydraulic loading
- SVI
- F/M ratio
- Sludge Age
- Unit Conversion
- Pumping rate
- Open channel flow calculations
- Chemical dosage calculations

8. Treatment Plant Operation

- Odor control
- Solids Management
- Phosphorus removal
- Nitrogen removal
- Nutrient control
- Plant and operational safety
- Plant maintenance
- Chemical
- Metering and operational data
- Data acquisition

9. Terms

- Operational
- Treatment
- Abbreviations
- Laboratory