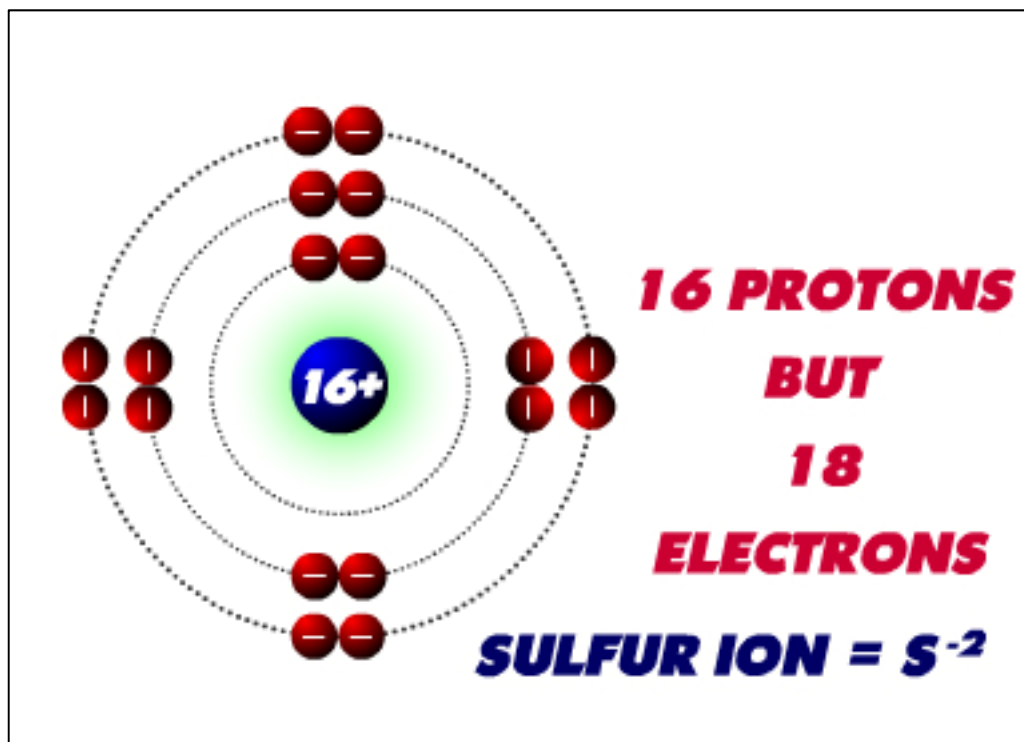


Water Treatment Chemistry

OLC113



Online Training

Information Packet

Costs

- \$261 USD
 - Price includes
 - Narration
 - Many illustrations
 - Video clips
 - Animations
 - Pictures
 - Interactive questions
 - Practice exams
 - Final exam
 - Discounts may apply
 - Bundled discount for RO Certification
 - Multiple-course discount
 - Multiple-trainee discount
 - From time to time DHP runs special discounts

Length:

Nine (9) hours

What you will earn:

David H. Paul, Inc Certificate upon successfully passing an exam based on the knowledge and proficiencies learned in this course

Description:

You will learn to understand the chemistry involved in water treatment and understand the mechanisms involved in the combination of atoms to form molecules. You will understand the molecular structure of water and the resulting polarity of the molecule and you will understand some characteristics of important ions in water treatment. You will understand how organics may cause fouling both directly and indirectly in RO systems.

Overview of Topics

- Atoms & Molecules
- Chemical Bonds
- Properties of Water
- Ions
- Organics
- Measuring Dissolved Contaminants
- Non-Living Particles
- Microorganisms
- Suspended Contaminants

Topic Breakdown

Chemical Bonds

- Introduction
- Ions
- Covalent Bonds
- Molecular Geometry
- Polarity
- Polarity Interactions
- Chemical Reactions
- Practical Reactions

Properties of Water

- Introduction
- Molecular Structure
- Polarity
- Hydrogen Bonding
- Surface Tension
- Solutions
- Suspensions
- Sources of Water

Ions

- Introduction
- Review of Atoms & Ions
- Dissociation of Ions
- Acids & Bases – I
- pH Scale
- Acids & Bases – II
- Oxidation & Reduction
- Chlorination

Organics

- Introduction
- Organic Compounds
- Molecular Weight
- Functional Groups
- Organic Solubility
- Organics & Biofouling

Measuring Dissolved Contaminants

- Introduction
- Conductivity
- Resistivity
- Organics
- pH
- Chlorine

Non-Living Particles

- Introduction
- Nonliving Particles
- Silica
- Electronic Configuration
- Metal Substitution
- Sand
- Silt
- Clay
- Colloids
- Precipitates
- Organics
- Tannins & Humic Substances

Microorganisms

- Introduction
- Bacterial Shapes & Division
- Bacterial Structure
- Bacterial Energy & Carbon Requirements
- Bacterial Temperature Requirements
- Bacterial Oxygen Requirements
- Algae
- Fungi
- Biofouling
- Bacterial Growth
- Ideal Conditions

Suspended Contaminants

- Introduction
- Total Suspended Solids (TSS)
- Turbidity
- Silt Density Index (SDI)
- SDI Procedure Summary
- Bacterial Monitoring
- Heterotrophic Plate Count (HPC)
- Pour Plate
- Spread Plate
- Dip Slide
- Membrane Filtration Count
- Most Probable Number
- Presence/Absence Test
- Direct Count

DHP's Training Methodology

DHP uses the consulting services of a Doctor of Education from Columbia University (Dr. Linda Paul) in the development of its online training courses.

DHP's training methodology includes:

- Short, interesting, interactive lecture sessions using:
 - Lecture slides
 - Video clips
 - Animations
- Pop quizzes to enhance understanding and retention
- Practice exams

Who Should Take This Course

Everyone who works with, or will work with, the reverse osmosis and pretreatment technologies in operating plants needs to know the tips, techniques and proficiencies taught in this online training, including:

- Operators
- Maintenance personnel
- I & C Technicians
- Supervisors/Managers
- Engineers
- Original Equipment Manufacturers
- Service technicians
- More

What You'll Receive

- 9 hours of interesting, easy-to-understand training
- David H. Paul, Inc Certificate upon successfully passing an exam based on the knowledge and proficiencies learned in this course