

# Conventional and Direct Filtration

*Note: 6 hours total (0.6 CEUs) not including breaks & lunch*

- 9 am**      **Intro/Overview**
- Coagulation**
- Objective
  - Options (chemical injection pumps and mixers)
  - Coagulants
  - Process Control (dose, mixing, jar testing, streaming current meters)
- 10:15 am**    **Break (15 minutes)**
- 10:30 am**    **Flocculation**
- Objective
  - Options (hydraulic and mechanical flocculation)
  - Flocculant aids
  - Process control (hydraulic detention time & mixing)
- 12 noon**     **Lunch (on your own)**
- 1 pm**        **Clarification/Sedimentation**
- Objective
  - Options (conventional basins, tube & plate settlers, etc.)
  - Process control (surface overflow rate, and optimization goals)
- 2 pm**        **Filtration**
- Objective
  - Options (mono/dual/mixed media/deep bed/biologically active filtration)
- 2:15 pm**     **Break (15 minutes)**
- 2:30 pm**     **Filtration (continued)**
- Filter aids
  - Backwash
  - Process control (filter loading rate, headloss, unit filter run volume, backwash observations and optimization goals)
- 3:30 pm**     **General Operations**
- Proper treatment plant sampling locations (turbidity, chlorine residual, TOC)
  - Instrument calibration
  - Operations & maintenance manuals
  - Reporting requirements
  - Resources for operators
- 4:30 pm**     **End**