

**Course Title: Optimizing Polymer Mixing and Activation: Following the Science**

*60 minutes of instruction*

Course Outline:

9:30am – 9:45am	Introduction	
10:00am – 10:20am	History of polymer	(20 minutes)
	Polymer use in water/wastewater treatment	
	Basic polymer chemistry	
	Viscosity – indicator of polymer solution quality	
10:20am – 10:35am	Real science of polymer activation	(15 minutes)
	Effects of dilution water quality	
	Two-stage mixing and residence time	
	Emulsion polymer activation	
	Dry polymer activation, minimizing aging time	
10:35am – 10:50am	Polymer activation equipment	(15 minutes)
	Mixing energy profile, chamber volume and residence time	
	Mechanical mixing equipment and mixing chambers	
	Hydraulic mixing equipment and mixing chambers	
10:50am – 11:00am	Case Studies and Questions	(10 minutes)
	Emulsion polymer dewatering application, effects of mix chamber size	
	Dry polymer dewatering (screw press) application	
	Questions	