



Electrolyte Modeling Basics (EMB)

Description: 2-day training in electrolyte simulation techniques using OLI Studio: Stream Analyzer.

Time: EMB, Full Course: two 8-hour days; EMB, Short Course: two 3-hour (web) sessions

Summary The **Electrolyte Modeling Basics** course is designed to train attendees on how to use OLI software and its underlying chemistry principles. At the end of the course, participants will be able to formulate and build their own applications and interpret the data presented in reports and plots. Participants will leave with a qualitative image of how ions and molecules behave in water and a better understanding of properties like alkalinity and pH.

Who should attend: Beginning and prospective OLI clients. Class is designed for participants with little or no knowledge of OLI simulation techniques. Intermediate level clients wanting to refresh their skills may also join this class; there are extra problems in each section that allow for independent inquiry.

Instructor: AJ Gerbino, PhD, an electrolyte simulation expert and author of the workshop

Cost: **Regional Training (EMB, Full Course)**
\$900 USD per participant

Web Training (EMB, Short Course) via WebEx
\$500 USD / Per Participant
*Contact us for group rates

EMB at OLI at OLI's Office in NJ, USA
We host an on-demand class at OLI office in New Jersey
*Contact Us for this option

Register: Online: <https://www.olisystems.com/oli-training>
Email: dira.silvera@olisystems.com
Phone: USA 1-973-998-0240 x114

Accommodations: For in-person courses, please bring a laptop. You may also want to bring a tablet to view the manual (not required). For web courses, please ensure that your computer has two monitors, and that you can log into Cisco's WebEx.

OLI Software: For EMB-Full Courses, we will be use Studio: Stream and Corrosion Analyzer.
For EMB-Short Courses, we will be using primarily OLI Studio: Stream Analyzer.

All participants receive 30-day evaluation copies of OLI software

THINK SIMULATION! Getting the chemistry right

OLI Systems, Inc., 240 Cedar Knolls Road, Suite 301, Cedar Knolls, NJ USA 07927

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Phone: 1-973-998-0240 (Software access, simulation studies) or 1-973-539-4996 (OLI main) sales@olisystems.com for inquiries

Electrolyte Modeling Basics Class Content

This workshop will teach electrolyte chemistry concepts and electrolyte simulation techniques, including:

Simulation Techniques & Program Manipulations

- Single point calculation using variety of equilibrium methods: Isothermal flash, bubble / dew points, solubilities, set pH, etc.
- Trend analysis using independent variables of T, P, composition, and pH
- Simple mixing and separations
- Output interpretation, including customization of plots and reports
- Analysis entry – water, oils, other measured data
- Electrochemical stability diagrams

Electrolyte Chemistry Theory

- Electrolyte speciation, acid-base chemistry, and other common chemical reactions
- Basic electrolyte thermodynamics for equilibrium constants and activity coefficients
- Precipitation/Dissolution and vapor/liquid reactions
- Oxidation-Reduction redox potential.

Chemistry Model Manipulation

- Adding/removing solid phases and which phases to select
- Building Azeotropes
- Modifying Critical properties of pseudocomponents
- Selectively manipulating oxidation-reduction reactions

Applications

A portion of the second day in the full course will focus field applications that users bring to the class or that users select from the following list:

Studio Applications

Mineral scaling during production
Product yield – solids precipitation
Crude tower overhead desublimation
Warm lime softening
Evaporative crystallization
Dehydration
Ion exchange and adsorption
Corrosion simulation studies

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