

# Introduction to Geothermal Energy

Presented by Teverra LLC

July 18 – 19, 2023, 8 am – 12 pm CDT

This course is an introduction to geothermal energy introducing the audience to what geothermal is, how geothermal resources are discovered, and how to produce energy once found. The geothermal exploration, production, and development process is similar to the petroleum industry, but varies because of the desired end product, hot producible water versus a hydrocarbon resource. This course introduces broad ideas and geologic characteristics of geothermal system development including exploration and production concepts. We will highlight past projects and evaluations using real case studies.



## WHAT YOU WILL LEARN

Upon completion of the course, participants will:

- Understand the different types of geothermal energy and variations based on tectonic setting
- Have an appreciation for the process, challenges, and technical challenges of geothermal exploration and production
- Know where to begin a geothermal development project



## WHO WILL TEACH

Dr. Joseph Batir is Geothermal Lead at Teverra with close to 15 years of experience, currently guiding his team in thermal resource characterization, oilfield energy conversion, geothermal reservoir modeling, and new technologies and tool development. Dr. Batir's expertise is exploration and resource quantification through surface and subsurface geospatial analysis, play fairway mapping, and numerical modeling, which has led to discoveries of unknown and underutilized energy resources. To further this work, Teverra is currently developing innovative analysis methods to discover new geologic insights and identify additional energy opportunities. His work includes projects throughout the Continental United States, Alaska, Africa, South America, the Middle East, and Iceland in both sedimentary and volcanic settings.



## COURSE OUTLINE

### Session 1

- Geothermal introduction
- Types of geothermal systems
- Energy Uses
- Tectonic environments
- Faults and fractures
- Direct evidence
- Exploration Overview
- Reservoir Characterization Overview

### Session 2

- Well Design Overview
- Exploration and Production Roadmap
- Geothermal Energy Production
- Power production
- Geothermal Market
- New technologies taking geothermal everywhere



**By:**  
**Dr. Joseph Batir**

