



### Workshop/Course Details

**When:** February 8-March 26, 2021

**Where:** Three Zoom sessions and balance of work through EOU's Canvas course delivery system

**Who:** Designed for Middle and High School Physical Science Teachers open to all Oregon teachers

**Cost:** This workshop is offered free. Two credits of professional development is offered through EOU.

**Materials:** All materials required for the workshop/course are provided.

**Stipend:** A \$300 stipend is available through GO-STEM

**Contact Michael Jaeger for more information**  
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**Overview.** This course provides context for the teaching of STEM content related to energy production, transformation and efficiency. Hear the story of Garfield's assassination and build a metal detector. Apply concepts of mutual induction and build a transformer and joule thief. Review the story of Archimedes' defense of Syracuse, experiment with gelatin lenses, make a cell phone microscope, learn about the Italian physiologist who found electricity in frogs and explore the antics of Uncle Zeke as he destroys his kitchen sink. Build batteries, plate nickels, shock worms!

**Methodology.** Middle and High School Science, Math and CTE teachers often find that content, context and STEM applications are poorly organized and uninteresting in most traditional curricula. Using actual, real world historical problems, engineering applications, and current issues, allows teachers and students to relate content and theory to things that actually matter!

### Content and Format

The course covers three basic areas: electromagnetic interactions, refraction and reflection, and electrochemistry. Teachers will be introduced to a STEM context, be guided through a variety of experiences, explorations and discussions, and encouraged to adapt lessons and plan instruction for their students. Materials needed for the course will be provided. Step-by-step instructions, introductory Zoom sessions, pictures and videos, and email access will provide ample support.

**Support.** The Greater Oregon STEM Hub (GO STEM) received grant funds to provide educators completing the course with a \$300 stipend. Two graduate level credits will be available through EOU at a reduced cost of \$100/credit. The course is offered online through use of CANVAS and Zoom and is appropriate for middle and high school science and CTE teachers. There will be a combination of both synchronous and asynchronous sessions. Details are available at **Energy Exploration in Physical Science.**

**Does any of this sound like fun?**

.Join us! Contact [mjaeger@eou.edu](mailto:mjaeger@eou.edu)