

Course # and Title:**EDUC X877:** The Energy Coalition: Energy Is Everything**Description:**

The Energy Coalition (TEC) offers standards-based programming on energy and environment. TEC's curriculum is designed to empower students with the knowledge and skills to manage energy and water use in their homes, schools, and communities. With energy and water topics as a foundation, the curriculum offerings instill a lifelong ethic and habit of smart resource management in TK-12 students by engaging students in pro-environmental behaviors and core knowledge. The program's goal is to support and inform communities to become more sustainable so that they can help to ensure an innovative and sustainable community for future generations. TEC utilizes a comprehensive approach to energy education through lessons that are built around establishing sustainable environmental behaviors and facilitating mindful individual actions.

Energy is Everything (EiE) provides education and supportive resources to program participants on topics that include: Energy Resources, Gas and Electricity, Waste Management, Air Quality and Transportation; Water Conservation, and the Water-Energy Nexus.

As a Workforce Development Program, TEC supports California's vision and objectives for the future workforce by building essential offerings that provide awareness and understanding about careers in energy and Science, Technology, Engineering, and Mathematics (STEM) related fields through EiE offerings. By actively educating, preparing, and empowering future workforce members to understand the science and engineering related to energy and equipping them with tools to design solutions for the ever-evolving energy future. We are committed to engaging every student from awareness, to exploration, and finally to actions that will ensure the continuity of the skill-building and proficiency required for students' career-readiness. To ensure the preparedness of the future workforce, we actively establish and maintain meaningful partnerships that support the cultivation of a seamless career pipeline from TK to postsecondary. These relationships sustain ongoing student engagement and mitigate any gaps students might experience that could diminish mobility towards a STEM-based and/or energy career.

Research has identified that "STEM identity" is established during elementary school years and if students do not acquire a positive sense of agency related to STEM concepts within that timeframe, they are much less likely to pursue or be equipped with the skills necessary to join the STEM-based workforce. TEC's curriculum strives to support positive STEM identity and competence in EiE, while also reinforcing resource management behaviors as early as possible in order to best support long-term, positive sustainable practices.

EiE is a multidisciplinary program that is aligned with state-adopted academic standards including Common Core State Standards and Next Generation Science Standards for grades kindergarten through twelve. In addition to teaching energy and environmental sciences, the curriculum also incorporates engineering and mathematics; all while honing language arts skills such as writing, researching, and presenting. Within the framework, teachers are facilitators, guiding students to apply science and engineering practices (such as researching, designing

solutions, redesigning, notebooking and communicating) while building their conceptual knowledge. EiE is intended to build STEM skills, especially in the areas of energy and water resource management. As students deepen their knowledge about human impacts on the environment, they may shift their own behavior and decisions towards living more sustainably.

Employing a combination of hands-on classroom activities, guided instruction, and interactive online learning exercises, TEC's programming demonstrates energy science and usage concepts that motivates students to think about how they can become strategic energy and water consumers in their own homes, schools, and communities. The programs encompass the entire energy nexus, including the science of energy conversion; the environmental impacts of electrical generation on air and water quality; modalities of energy use; strategic use of water and other natural resources; and the financial impacts of energy use on households, schools, and communities.

Cost: Continuing Education Units (CEUs) are \$40/unit. 1 unit = 10 hours of work.

Seats Available: No Limit

Section Description:

All training options will have students:

- Learning about The Energy Coalition and its objectives,
- Completing a course on the Next Generation Science Standards (NGSS) that provides an overview of NGSS and the three dimensions of its framework, along with an overview of how the EiE program is aligned.
- Complete a grade-level course review. Navigate through all the lessons and resources to become familiar with lesson outlines and best practices for instruction.
- Explore hands-on investigations to gain confidence with content and ability to teach labs.

Meeting days and times:

Participants will have the option to participate in one of the following ways;

1. In-person (dates vary)
2. Online (self-paced)
3. Hybrid (in-person/online)

Location:

Participants will have the option to participate in one of the following ways;

1. In-person (locations vary)
2. Online (Schoology e-learning platform)
3. Hybrid (in-person/online)

Instructor(s):

The Energy Coalition's Education Specialist

- Grade 3-8: Rachael Van Schoik rvanschoik@energycoalition.org
- Grade TK-2, Out-of-School Time: Amy Whitehouse awhitehouse@energycoalition.org
- Grade 9-12: Vanida Ngeam vngeam@energycoalition.org

Tuition: Continuing Education Units (CEUs) are \$40/unit. 1 unit = 10 hours of work.

Additional Info (e.g., final enrollment day and credit hours or CEUs):

Course Text and Materials

- Digital access to all curriculum and resources on Schoology (online learning platform)
- Science toolkit and materials with supplies offered by TEC

Expectations and Learning Experiences

- **Participation and Attendance**
 - Participants are to complete the online learning module for their grade-level curriculum
 - Participants are to post to assigned discussions on the online platform
- **Course Requirements**
 - **Reading Notes**
 - Review of all curriculum and completion of Lesson Overview Handout
 - **In-class participation**
 - Participation in all assigned discussion prompts
 - Participation in biweekly group posts
 - **Assignments**
 - Complete all assigned quizzes in the online professional development module
 - Administer the Pre/Post-Learning Surveys to students prior to instruction
 - Complete the Program Evaluation after all instruction is complete
 - **Reflection writing piece**
 - Final writing prompt and reflection will be incorporated within the Program Evaluation

Grading Policy

A = 100-90% B = 80-89% C = 70-79% D = 60-69% F = 59 and below

Complete orientation and Professional Development training (online or In-person) (30%)
Implement NGSS and CCSS aligned lessons for their grade level (40 %)
Administer a pre/post learning survey to students (20%)
Complete Program Evaluation and reflection (10%)

Topical Outline

Outline of content presented	# of hours
Orientation and PD	3
Program implementation	6


Evaluation and reflection	1
Total:	10



FREE PROFESSIONAL DEVELOPMENT OPPORTUNITY FOR K-2 EDUCATORS!

Enroll in our Online Professional Development Training to be eligible for a **\$50 Training Stipend!**

- Feel more confident teaching energy, science and sustainability concepts in your classroom
- Become acquainted with our K-2 standards-based energy & environmental STEM curriculum, PEAK Jr.
- Receive access to nine environmental units and free science toolkits

 is a K-2 comprehensive Common Core and NGSS aligned STEM curriculum that empowers students to become smart energy managers through hands-on labs and action-based activities!


To enroll with PEAK Jr., contact Amy Whitehouse at awhitehouse@energycoalition.org or (858) 324-6483



FREE PROFESSIONAL DEVELOPMENT OPPORTUNITY FOR 3RD - 5TH GRADE EDUCATORS!

Enroll in our Online Professional Development Training
to be eligible for a **\$50 Training Stipend!**

- Feel more confident teaching energy, science and sustainability concepts in your classroom
- Become acquainted with our 3rd -5th standards-based energy & environmental STEM curriculum, PEAK 3D
- Receive access to environmental lessons and free science toolkits

 is a 3rd - 5th grade comprehensive Common Core and NGSS aligned STEM curriculum that integrates language arts, civics, geography, mathematics, and the environment, and, prepares students with STEM skills to inspire them to pursue careers in environmental/energy fields.

To enroll with PEAK, contact Rachael Van Schoik at
rvanschoik@energycoalition.org or (510) 444-5066




6th - 8th

PROFESSIONAL DEVELOPMENT OPPORTUNITY - NO COST FOR MIDDLE SCHOOL EDUCATORS!

Enroll in our Online Professional Development Training
to be eligible for a **\$50 Training Stipend!**

- Feel more confident teaching energy, science and sustainability concepts in your classroom
- Become acquainted with our middle school, standards-based energy & environmental STEM curriculum, PEAK 3D
- Receive digital access to environmental lessons and science toolkits at no-cost
- Ongoing instructional planning and co-teaching support

 is a 6th-8th grade comprehensive Common Core and NGSS aligned STEM curriculum that integrates engineering, language arts, civics, geography, mathematics, and the environment, and, prepares students with STEM skills to inspire them to pursue careers in environmental/energy fields.

To enroll with PEAK, contact Rachael Van Schoik at
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OSTEP

out-of-school time
energy program



\$50 Training
Stipend
Available!

FREE PROFESSIONAL DEVELOPMENT OPPORTUNITY FOR EDUCATORS!

Online Training Opportunity

- **Eligible for a \$50 Training Stipend**
- Become familiar with how to use OSTEP to teach STEM lessons
- Dive into custom-designed lessons to meet unique needs of non-traditional learning settings
- Feel more confident teaching energy, science, and sustainability concepts
- Learn how OSTEP aligns with Common Core and NGSS
- Learn how The Energy Coalition can support your implementation

What is OSTEP?

- An Out-of-School Time Energy Program focused on environmental and sustainability concepts
- 19 hands-on lessons in which students will utilize critical-thinking and problem-solving skills to address challenges and design solutions
- Online OSTEP curriculum accompanied by science toolkits at **no cost**
- STEM curriculum aligned with Common Core and NGSS

To enroll with OSTEP, contact Amy Whitehouse at awhitehouse@energycoalition.org or (858) 324-6483