

# Exploring Renewable Energy: A Summer STEM Camp

May 30 – June 2, 2022 (middle school camp)

June 2 – June 4, 2022 (high school camp)

Hosted on the NWOSU campus in Alva, OK

**FREE Summer 2022 STEM Camp for Oklahoma middle school and high school students**

Funded by the Oklahoma State Regents for Higher-Education and hosted by Northwestern Oklahoma State University, High Plains Technology Center, and



Next Era Energy, *Exploring Renewable*

*Energy: A summer STEM camp* will

engage students in hands-on learning

with experts in higher-education as well

as professionals in the field of renewable energy. Students entering

grades 8-12 in the fall of 2022 are eligible to apply. Students will get an



inside view of an operating nacelle, experience with simulators and a climbing

tower, and see an operational wind turbine. Students will learn about the

generation and use of electricity as well as an

introduction to electronics and robotics.

Students will have hands-on experiences with

the Renewable Energy Trainer, a portable

Microgrid training device that includes

power generation, micro-inverter, and storage using renewable energy

technology. Students will also build and assemble a wind turbine and

learn about solar power.



Apply online at <https://www.nwosu.edu/stem-summer-camp>

(applications accepted March 1 – April 1, 2022)

For more information contact Dr. Tim Maharry @ [tjmaharry@nwosu.edu](mailto:tjmaharry@nwosu.edu) or 580-327-8583



Middle School camp – 25 students: May 30-June 2

**Monday, May 30:**

7-8 p.m.: middle school students arrive and check into dorms at NWOSU

8 p.m.: Introductions, Welcome, and orientation to STEM camp (at dorms)

**Tuesday, May 31:**

8 a.m: Renewable Energy MicroGrid Trainer Activities

9 a.m: MicroGrid trainer activities

Noon: Lunch

1 p.m.: Renewable Energy MicroGrid Trainer Activities

3:00 p.m.: Electricity, Electronics, and Sensors in Robotics Lab (NWOSU)

4:30 p.m.: Break/Free-time

5:30 p.m.: Supper @ Coronado Cafeteria

6:30 p.m.: evening activities (movies, bowling, swimming at Wellness Center, etc)

**Wednesday, June 1:**

8:00 a.m: Breakfast @ Coronado Cafeteria

9:00 a.m: travel to High Plains Technology Center in Woodward

10:30 a.m: activities at High Plains (safety training, simulator, wind turbine operation)

12:00 p.m.: Lunch in Woodward

1:00 p.m.: activities/training at High Plains

2:30 p.m.: travel to wind turbine site near Boiling Springs

3:00 p.m.: tour wind turbine and demonstration

4:00 p.m.: travel to Alabaster Caverns State Park (near Freedom, OK)

5:00 p.m.: tour of caves

6:00 p.m.: supper at Alabaster Caverns State Park

8:00 p.m.: return to Alva

**Thursday, June 2:**

8:00 a.m: Breakfast @ Coronado Cafeteria

9:00 a.m: Activities in the Robotics lab at NWOSU (SCADA & Robotics)

10:30 a.m: Camp evaluation

11:00 a.m: Check out of dorms, departure; camp ends

## High School c a.mp – 25 students: June 2 - June 4

### **Thursday, June 2:**

- 1:00-2:00 p.m.: high school students arrive and check into dorms at NWOSU
- 2:00 p.m.: Introductions, Welcome, and Orientation to STEM camp
- 2:30 p.m.: Activities in the Robotics lab at NWOSU (SCADA & Robotics)
- 4:30 p.m.: Break/Free-time
- 5:30 p.m.: Supper @ Coronado Cafeteria
- 6:30 p.m.: evening activities (movies, bowling, swimming at Wellness Center, etc)

### **Friday, June 3:**

- 8:00 a.m: Breakfast @ Coronado Cafeteria
- 9:00 a.m: travel to High Plains Technology Center in Woodward
- 10:30 a.m: activities at High Plains (safety training, simulator, wind turbine operation)
- 12:00 p.m.: Lunch in Woodward
- 1:00 p.m.: activities/training at High Plains
- 2:30 p.m.: travel to wind turbine site near Boiling Springs
- 3:00 p.m.: tour wind turbine and demonstration
- 4:00 p.m.: travel to Alabaster Caverns State Park (near Freedom, OK)
- 5:00 p.m.: tour of caves
- 6:00 p.m.: supper at Alabaster Caverns State Park
- 8:00 p.m.: return to Alva

### **Saturday, June 4:**

- 8 a.m: Breakfast @ Coronado Cafeteria
- 9 a.m: Renewable Energy MicroGrid Trainer Activities
- Noon: Lunch
- 1 p.m.: Renewable Energy MicroGrid Trainer Activities
- 2:30 p.m.: Electricity, Electronics, and Sensors in Robotics Lab (NWOSU)
- 3:30 p.m.: Camp evaluation
- 4:00 p.m.: Check out of dorms, departure; camp ends