2018 Dream Catchers Science Program

October 12, 2018 – NMSU Grants Campus

A hands-on science and engineering program designed for American Indian students in grades 6 through 12 who are interested in science, technology, engineering and math. There are no costs to attend the program and parents are invited to attend workshops with their student(s).

Fuel Cell Cars

In this class, we will study the physical properties of light and perform experiments to demonstrate these properties. We will discuss its application to solar power. Next, we will examine hydrogen fuel cells, which can be used for transportation and reduce the usage of fossil fuels. We will assemble a fuel cell car kit, and, through a series of experiments that the students perform, we will power it with traditional batteries, hydrogen fuel cells, and directly with solar power.

Chemical Engineering

Chemistry is everywhere and you encounter it on a daily basis whether you realize it or not. In this class we will go through some chemical engineering basics, looking at differences between chemical and physical changes, and use that knowledge to harness the power of chemistry to crumble metal, blow up balloons, and more. This class will end with a competition using what has been learned.

Cyber/IT

Students will learn about exciting opportunities in cybersecurity and information and communication technologies relevant to tribal communities. Course exercises will be based on the Sandia CECOR (Consortium Enabling Cybersecurity Opportunities and Research) and the ThunderBird Cup for students 6 through 12.

Robotics

In this class students will get a chance to program a LEGO® Mindstorms robot. Students will be in teams of 4 and will learn to move a robot and use sensors to complete tasks. The teams will then compete against each other; prizes will be awarded for 1st, 2nd place and for behavior.