2018 Dream Catchers Science Program

April 13, 2018 – UNM Gallup 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.

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.

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.

Project Management

Have you ever wondered how a basketball gym, rocket or phone was created? Or, how an individual was able to get to a certain place in life? All of these can be considered projects. In order for a project to be completed, it requires a lot of questions to be addressed. How many people do we need to build this part, how many parts do we need, how much is it going to cost? Should I go to college, should I spend or invest my money?

To begin to address these questions, it all starts with what is called project management. It can be applied to virtually everything we do or create. Whether it's building something or planning our future, project management provides us with tools to answer questions in order to meet our goals. In short, project management helps us to manage the present and plan for the future.

In this class, you will apply the fundamental concepts of project management to organize a couple of projects. You will create a schedule and budget to help plan and manage costs. One of the projects you will be organizing, planning and managing will be your life after high school. Also, while learning and applying project management concepts, we will briefly discuss a few topics that you are sure to experience after high school if you haven’t already encountered them.