FIRST® Tech Challenge Professional Development

Remote Course Description

The *FIRST*® Tech Challenge professional development course gives attendees a strong understanding of how to implement the *FIRST* Tech Challenge program and how to achieve science, technology, engineering, and math (STEM) learning objectives. In *FIRST* Tech Challenge, students learn to think like engineers. Teams design, build, and program robots to compete in an alliance format against other teams with a spirit of friendly competition. Many call it "the hardest fun you'll ever have." Participants in this course will walk in the footsteps of the students as they engage in these hands-on experiences and practice engineering principles such as keeping an engineering notebook. The course is customized to meet the unique needs of participants in a remote setting while modeling how to inspire their students to become confident and creative innovators and collaborators.

Remote Course Requirements

- Computer device with Internet access for RingCentral Meeting
- *1 *FIRST* Tech Challenge Robot kit - TETRIX *FIRST* Tech Challenge Competition Set or any REV Robotics Kit
- *1 Control and Communication Set
- *1 Electronics Module and Sensor Set
- A second computer device to use in connection to your REV control system

* Class Pack or Individual Team Registration and robot products can be purchased through the *FIRST*® Dashboard.

Course Objectives

By the end of this course, you will:

- Participate in the *FIRST* experience from a student's point of view
- Explore the essential components of the *FIRST* Tech Challenge program
- Feel comfortable using hardware and software components of *FIRST* Tech Challenge robotics kits such as TETRIX and REV
- Understand how to code using Blockly programming software
- Learn how to facilitate hands-on activities for the classroom or after-school programs
- Collaborate with other participants and share best practices
- Be able to foster computational thinking, collaboration, and problem-solving skills in students
- Have experience with Project-Based Learning, the Engineering Design Process, and 21st Century Skills
- Implement Diversity and Inclusion practices
- Utilize, model, and reinforce the *FIRST* Core Values