

FIRST® Tech Challenge Professional Development

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.

Course Requirements

FIRST® Provides:

- *FIRST*® Tech Challenge Robot kit - TETRIX *FIRST* Tech Challenge Set and REV Robotics Kit
- Control and Communication Set
- Electronics Module and Sensor Set

Participant Brings:

- Computer with internet access

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