



ARRL Education & Technology Program Teachers Institute on Wireless Technology: Introduction to Wireless Technology (TI-1)

- Educational Context for Wireless Technology
- Basic Electronics
 - Electromagnetism
 - Basic electronic components
 - Using the digital multimeter
 - Ohm's Law
 - Electronic assembly & soldering
- Understanding Signals
 - Wave fundamentals
 - Using the digital oscilloscope
 - Modulation and demodulation
 - Building blocks of radio
 - Digital signal processing (DSP) fundamentals
- Radio Applications in the Classroom
 - Amateur Satellites
 - Radio Direction Finding (Foxhunting) HF bands
 - Public service
 - Overcoming barriers to implementation
- Microcontrollers
 - Introduction to Microcontrollers
 - Fundamentals of Programming
- Robotics
 - Robot assembly
 - Robot programming
 - Motion - motors and servos
 - Sensors - digital and analog
 - Navigation

Throughout the program, participants will explore application topics such as working with a local radio club, career and scholarship opportunities for students, grant opportunities, and looking ahead to TI-2.