YTP - Module YTP01

Arduino & Micro-Controllers

Teachers Handbook
LESSON 8
Servos

Goals & Success Factors

Lesson Goal

- To understand what a servo is
- Build a servo circuit with Arduino
- Code the circuit, test it and experiment
- Complete the challenge circuit
- Stretch goal – explain for loops

Lesson Success Factor(s)

- Able to explain what a servo is
- Demonstrate a working servo circuit
- Able to explain how the code works
- Stretch SF: Explain for…loops

Runsheet (Guideline)

PART 1
00:00 Introduction
00:05 Goals & Success Factors
00:10 Recap of last week
00:15 Introduction to servos
00:20 Watch servo video how to
00:25 Servos in action - discuss
00:30 Build a simple servo circuit. Code/Test/Verify (with instructor)
01:00 BREAK

PART 2
01:15 Challenge project – Light one or more LEDs with a servo
01:25 Build the circuit
01:40 Code/Test/Run the circuit
02:00 FINISH

Extension(s)
      Add more than one LED to the circuit

Students Pre-work

Watch the following video:
N/A

Teachers Pre-work

Read the following tutorial about Servos:
https://www.sciencebuddies.org/science-fair-projects/references/introduction-to-servo-motors

Watch the following video:
Servos Tutorial: https://youtu.be/kUHmYKWwuWs

Student Homework
More servo videos: https://youtu.be/SfmHNb5QAzc

Handouts (optional)

N/A

Materials Needed

Software
Arduino IDE

Hardware
Arduino UNOs
Breadboards
Jumper wires
LEDs
100 - 220 Ohm resistors
SG90 Tower Pro Servos

Handbook

Handouts

n/a

Resources

n/a