

Arduino Micro Controller Training for Applied Physics MGMP Vocational Teachers in the Special Region of Yogyakarta

by Supardi, Nur Kadarisman, Sumarna, Agus Purwanto, Pinaka Elka Swastika, Nisrina Hasna Mustofa, Ervan Yoga Pratama

ABSTRACT

The purpose of this service is to provide Arduino micro controller training for teachers of Applied Physics MGMP Vocational Schools in the Special Region of Yogyakarta (1) about making Applied Physics projects based on the Arduino UNO/Nano microcontroller, (2) training teachers to be able to properly use physics measuring instruments. as well as electronic devices that accompany projects based on the Arduino UNO/Nano microcontroller, and (3) train teachers on how to make applied physics projects based on the Arduino UNO/Nano microcontroller so that teachers can use them to improve their competence. The method used is training or workshops that are held online through zoom meetings, considering the Covid 19 pandemic condition which is still relatively crowded in Yogyakarta. To overcome the problem of visual limitations, considering that the devices used are relatively small, the Tinkercad simulator is used, an adequate simulator for learning to assemble and code circuits based on Arduino. There were 17 Applied Physics teachers spread across the Special Region of Yogyakarta who attended this zoom meeting, including teachers who had an electronic physics education background as well as teachers who did not have a background in electronics knowledge. The results of this service show that most of the teachers of applied physics in the DIY region expect the continuity of this activity, considering that electronics skills are one of the competencies that MGMP teachers of Applied Physics must master. The Tinkercad simulator can replace Arduino-based electronics practicum to make simple physics projects, so that even in a pandemic atmosphere the practicum process can still be carried out.

Kata Kunci: Training, Arduino, physics project, simulator, Tinkercad