CANSAT GHANA 2023

Region*: Upper West - Workshop Outline*
Number of Days for workshops: 3 days
Venue/Host: Bolgatanga Senior High School

Phase 1: May (4 hours)
Space science:
1. Introduction to Astronomy, Space and satellite engineering

Electronics Training Outline:
1. Introduction to electronics
    a. From science to electronics
2. Components and source
    a. Active and Passives
    b. Ohm's and Kirchoff laws and their applications
    c. Resistor combination circuits
    d. Voltage and current dividers and their applications
3. PN-junction diodes, and transistors
4. Introduction to Arduino Microcontrollers
    a. Arduino Hardware overview
    b. How to integrate and control a circuit with Arduino
    c. Reading sensors with Arduino
5. Nyarkoa Hardware overview
    a. Embedding Nyarkoa Payload in circuits
    b. Nyarkoa vs Arduino

Phase 2: June and July (At least 3 hours a day)
Programming Training Outline
1. Computer programming overview
    a. Orientation: The right attitude of a programmer
    b. Introduction to programming languages
    c. Introduction to Arduino Programming
        i. Structure of Arduino Program
        ii. Variables, operators, decision structures
        iii. Looping constructs, functions