



**Republic of the Philippines**  
**WESTERN MINDANAO STATE UNIVERSITY**  
Zamboanga City  
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[www.wmsu.edu.ph](http://www.wmsu.edu.ph)

## INVITATION TO BID

The Western Mindanao State University, through its Bids and Awards Committee (BAC), is inviting PhilGEPS registered suppliers to apply for eligibility and to submit bids for the item mentioned hereunder:

1. One (1) lot of STUDENT EDUCATIONAL KIT

Sixty (60) Units Arduino Micro-controller Training Kit  
(ABC: P11,750.00/unit)

The kit Includes the following:

A. Micro-controller Board

Specifications:

- . Memory: at least 2kB SRAM, 32kB flash, and 1kB EEPROM
- . Processor: at least 16MHz
- . Digital I/O: at least 14 pins
- . Analog I/O: at least 6 pins
- . PWM pins: at least 6
- . Built-in LED Pin: at least 13
- . Communication: UART, IC2, and SPI
- . USB Connector: USB-B
- . Replacable chip
- . I/O Voltage: 5V

B. Includes one (1) set of 37 sensors (with case)

- . 1 x 2 axis Analog Joystick
- . 1 x Relay
- . 1 x Big sound, big microphone for audio detection
- . 1 x Small sound, small microphone for audio detection
- . 1 x Tracking, small IR sensor
- . 1 x Avoidance, IR sensor
- . 1 x Flame
- . 1 x Linear hall, hall effect sensor to detect magnetic
- . 1 x Touch sensor
- . 1 x Digital temperature, thermistor
- . 1 x Active buzzer, audio output
- . 1 x Passive buzzer, Piezo buzzer
- . 1 x RGB LED, Through-hole LED
- . 1 x SMD RGB, SMD LED
- . 1 x Two-color, through LED
- . 1 x Mini two-color
- . 1 x Reed switch
- . 1 x Mini reed switch
- . 1 x Heartbeat
- . 1 x 7 color flash, auto flash LED
- . 1 x Laser emitter
- . 1 x Button, push button
- . 1 x Shock
- . 1 x Rotary encoders
- . 2 x Light cup
- . 1 x Ball switch
- . 1 x Tilt-switch, mercury
- . 1 x Photo-resistor, LDR
- . 1 x Temp and humidity
- . 1 x Analog hall
- . 1 x Hall magnetic
- . 1 x 18B20 temp
- . 1 x Analog temp, thermistor
- . 1 x IR emission
- . 1 x IR receiver
- . 1 x Tap module

- . 1 x Light blocking
- C. Includes one (1) compatible turtle robot

Sixty (60) Units Raspberry-Pi Single-Board Computer Training Kit  
ABC: P14,998.00/unit)

The Kit Includes the following:

A. Raspberry-Pi Single-Board Computer

Specifications:

- . Memory: at least 8GB
- . Processor: 1.5GHz (64-bit)
- . 2.4 GHz and 5.0 GHz IEEE 802.11ac wireless, Bluetooth 5.0, BLE Gigabit Ethernet
- . 2 x USB 3.0; 2 x USB 2.0
- . 2 x micro HDMI
- . 2-lane MIPO DSI display port
- . 2-lane MIPI CSI camera port
- . 4-pole stereo audio and composite video port
- . OpenGL ES 3.0 graphics
- . Micro-SD card slot for loading operating system and data storage
- . 5V DC via USB-C connector (minimum 3A)
- . 5V DC via GPIO header (minimum 3A)

B. Power over Ethernet (PoE) enabled (requires separate PoE HAT)

C. Compatible Power Supply

D. Micro HDMI to Standard HDMI cable (1 m)

E. Kit Case

F. Fan

G. At least 32GB microSD Card

H. One (1) set of Heatsink

Forty (40) Units Programmable Drone Kit

ABC: P21,086.00/unit)

Specifications:

- . DIY Quadcopter Drone for STEM education
- . Includes 2x microbits
- . Includes WIFI camera
- . Build, code, and fly features
- . KFC object Mapping
- . Color/Tag Recognition and Tracking
- . Body Motion Control
- . ROS Robot APP mapping

Two (2) Units Educational Robot Car with Vision Robotic Arm

ABC: (P160,050.00/unit)

Specifications:

1. Nano (Technology) Control System

- . With ROS controller
- . Able to run mainstream deep learning framework such as TensorFlow, PyTorch, Caffe, Keras, MXNetintelligent analysis
- . Can implement image recognition, object detection and positioning, post estimation, semantics segmentation,

2. Smart Vision Robotic Arm

- . FPV robotic arm for picking, sorting, and transporting
- . With 5 Degree of Freedom vision robotic arm
- . Multi-point navigation transport
- . Gesture Recognition
- . Color Recognition, Tracking, and Sorting
- . Waste Sorting
- . Voice Control
- . Follow line to clear obstacles
- . Grab weight (straight arm): up to 200 g
- . Grab weight during transporting: up to 500 g
- . Arm span: at least 410mm
- . Robotic arm material: aluminum alloy

3. Depth camera recognition and tracking
  - . RTAB-VSLAM 3D Mapping and Navigation
  - . ORBSLAM2 + ORBSLAM3 Mapping
  - . RGB data and point cloud visualization
  - . Media pipe development
  - . Human Body Recognition
  - . Fingertip detection
  - . Face detection
  - . 3D detection
  - . AI Deep Learning Networking Framework
  - . KFC object Mapping
  - . Color/Tag Recognition and Tracking
  - . Body Motion Control
  - . ROS Robot APP mapping
4. 2D LiDAR for mapping and navigation
  - . Supports mapping with Gmapping, Hector, Karto, and Cartographer algorithms
  - . Single-point and Multi-point Navigation
  - . LiDAR tracking - capable of target tracking
  - . LiDAR Guarding - alarms when detecting intruder
  - . RRT exploration mapping
  - . TEB Path Planning and obstacle avoidance
5. at least 6 microphone array for voice interaction
  - . Pick-up distance: up to 3.5m
  - . Far-field sound pick-up, noise reduction recognition
  - . Voice control navigation
  - . Voice control on color recognition and tracking, multi-point navigation
  - . Sound source localization
6. Interconnected Motorcade
  - . Muti-vehicle Navigation
  - . Intelligent Formation
  - . Group control features
7. With LCD touchscreen
  - . Screen Size: at least 7 inches
  - . Port: USB/HDMI
  - . Resolution: 1020 x 600 (HD)
8. Includes accessories
  - . Expansion board
  - . Encoder motor driver
  - . Hall Encoder Geared Motor
  - . At least 6000mAh Lipo Battery
  - . Speaker (installed)
  - . 2A charger
  - . Card reader
  - . PS2 wireless handle
  - . 1 appropriate tool set
  - . 1 screw bag

Three (3) Units Codebot 4WD

ABC: (P122,700.00/unit)

Specifications:

- . with ROS Controller , LiDAR and Depth Camera.
- . With Remote control joystick
- . With Wireless keyboard
- . Touch screen
- . Voice recognition controller
- . Flight case
- . Onboard Software:
  - Onboard Ubuntu, ROS1 and STM32 driver.
  - User can install ROS2 on a new Micro SD card or replace the original ROS1 on the bundled Micro SD card.
- . Drivers and ROS Packages:
  - iOS and Android remote control apps.
  - Drivers and Software Installers
  - ROS Packages and Source Codes
  - STM32 Chassis Source Codes

(at least 270 licenses)  
ABC: (P2,184.00/license)

Specifications:

- . Simulator for tertiary level
- . Laboratory Simulation Courses
- . Multimedia content for simulations
- . Laboratory manuals included
- . Laboratory exercises
- . Laboratory contents meet international standards
- . Libraries of images and videos
- . Learning activities are designed to promote problem-solving and critical thinking
- . Activities are based on current methodologies, exercises, and techniques
- . Guides for teachers and students
- . Training (on-site) for all users (5-15 days)
- . at least 6 months technical support
- . Does not require Internet (offline installation and usage)
- . Should be installed in the computer laboratory

Note:

Subjects include Fundamentals of Physics, Optics and Thermodynamics, Electricity and Magnetism, Modern Physics, Biophysics, and other related Physics subjects.

### VIRTUAL LABORATORY INTERACTIVE SIMULATION SOFTWARE FOR CHEMISTRY

(at least 270 licenses)  
ABC: (P2,618.00/license)

Specifications:

- . Simulator for tertiary level
- . Laboratory Simulation Courses
- . Multimedia content for simulations
- . Laboratory manuals included
- . Laboratory exercises
- . Laboratory contents meet international standards
- . Libraries of images and videos
- . Learning activities are designed to promote problem-solving and critical thinking
- . Activities are based on current methodologies, exercises, and techniques
- . Guides for teachers and students
- . Training (on-site) for all users (5-15 days)
- . at least 6 months technical support
- . Does not require Internet (offline installation and usage)
- . Should be installed in the computer laboratory

Note:

Subjects include General Chemistry, Biochemistry, Analytical Chemistry, Physical Chemistry, Instrumental Chemistry, and other related Chemistry subjects.

### VIRTUAL LABORATORY INTERACTIVE SIMULATION SOFTWARE FOR MATHEMATICS

(at least 270 licenses)  
ABC: (P3,696.00/license)

Specifications:

- . Simulator for tertiary level
- . Laboratory Simulation Courses
- . Multimedia content for simulations
- . Laboratory manuals included
- . Laboratory exercises
- . Laboratory contents meet international standards
- . Libraries of images and videos
- . Learning activities are designed to promote problem-solving and critical thinking
- . Activities are based on current methodologies, exercises, and techniques
- . Guides for teachers and students
- . Training (on-site) for all users (5-15 days)
- . at least 6 months technical support
- . Does not require Internet (offline installation and usage)
- . Should be installed in the computer laboratory

Note:

Subjects include Trigonometry, Differential Calculus, Integral Calculus, Differential Equations, College Algebra, Advance Math, and other related Mathematics subjects.

The criteria to be used for the eligibility check of the prospective bidders, examination and evaluation of bids, post-qualification and all matters relevant to this procurement shall be in accordance with Republic Act. No. 9184 (The Government Procurement Reform Act) and its Implementing Rules and Regulations. Interested bidders may obtain further information from WMSU BAC Secretariat regarding the checklist of eligibility and technical requirements.

**IMPORTANT NOTICE FOR BIDDERS:**

1. Bidding papers may be acquired starting November 22 until December 12, 2023 from the BAC Office or download from website ([www.wmsu.edu.ph](http://www.wmsu.edu.ph)). The WESTERN MINDANAO STATE UNIVERSITY shall allow the bidder to present its proof of payment for the Bidding Documents fees before the submission of their bids, pursuant to the latest Guidelines issued by the GPPB, in the amount of Ten Thousand Pesos (Php.10,000.00). (Please attached the machine copy of the Official Receipt)
2. All bidders' are required to post a Bid Security, at least Two (2%) Percent of the ABC in the form of Cash, Cashier's Check or Manager's Check or may submit Bid Securing Declaration. Bids without Bid Security will not be considered.
3. The Bidder shall prepare an original of the Eligibility Documents & Technical Components and original of Financial Proposal and clearly mark each "ORIGINAL – ELIGIBILITY DOCUMENTS and TECHNICAL COMPONENTS", and "ORIGINAL – FINANCIAL PROPOSAL", respectively. Bidders shall submit one (1) set of the first and second components of its bid. State the unit price of each item and the total bid price and also state the shortest time of delivery and submit your quotation duly signed by your representative in a sealed envelope.
4. Pre-Bid Conference will be on November 29, 2023, 9:30 AM at BAC Office for Goods, WMSU, 2nd Floor Administration Building, Zamboanga City and/or through video conferencing or webcasting via Zoom, which shall be open to prospective bidders.
5. Bid Submission will be on or before December 12, 2023 at 9:30 A.M. through Manual Submission.
6. Bid opening shall be on December 12, 2023 at 9:30 A.M. at BAC Office, 2nd Floor Administration Building, WMSU, Zamboanga City, Philippines, 7000. Bids will be opened in the presence of the Bidders representatives who choose to attend at the address above. Late bids shall not be accepted.
7. Price validity shall be for a period of 120 calendar days.
8. Bidders shall submit original brochures showing of the product being offered.
9. Warranty shall be for a period of Six (6) months for supplies and materials. One (1) year for equipment, from date of acceptance by WESTERN MINDANAO STATE UNIVERSITY.
10. Bids received in excess of the ABC shall be automatically rejected at Bid Opening.

The WESTERN MINDANAO STATE UNIVERSITY reserves the right to reject any or all Bids and to accept the bid most advantageous to the government, and to award the contract by lot, if warranted.