



Republic of the Philippines  
**NUOVA ECIIA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
Cabanatuan City  
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[www.neust.edu.ph](http://www.neust.edu.ph)

## INVITATION TO BID

The Nueva Ecija University of Science and Technology through its Bids and Awards Committee (BAC), invites entities to bid for the hereunder projects:

Name of Project: Supply and Delivery of Laboratory Equipment for Automotive Shop  
Location: College of Industrial Technology – NEUST, Cabanatuan City  
Approved Budget for the Contract (ABC): Php 15,520,000.00  
Contract Duration: 120 Calendar Days  
Fund Source: Income  
Bid Documents: Php 25,000.00

### ITEM DESCRIPTION/SPECIFICATION:

#### 1. 1 unit - TIRE CHANGER

##### Technical Specification:

Motor Power:	1.1kw / 60hz
Power Supply:	220V/1Ph
Max. Wheel Width:	43"
Max Wheel Diameter:	3"- 14"
Inside clamping range:	12"- 24"
Outside clamping range:	10"- 22"
Air Supply:	8 – 10 bar
Bead breaker force:	2,500kgs
Noise level:	<70db
Power supply voltage:	220V/1ph

Electric vulcanizer – 1 unit  
Jack stand 3tons – 1 pair  
Air die grinder kit – 1 set  
Tire lever 20" (extra) – 1 pc.  
Tire spreader – 1 pc.  
Tire valve remover / installer – 1 pc.  
Polyurethane air hose 15m – 1 pc.  
Rubber mallet – 1 pc.  
Sticher – 1 pc.  
3-way connector – 1 pc.  
Allen wrench keys – 1 pc.  
Transmission Jack 500 kgs. (double action) – 1 unit  
Engine Stand 2000lbs – 1 unit  
Crocodile jack 10 tons – 1 unit

#### 2. 1 unit - WHEEL ALIGNER

##### Basic Function:

- ✓ Toe
- ✓ Camber
- ✓ Caster
- ✓ Kingpin Inclination
- ✓ Setback
- ✓ Thrust Angle

Package Included:

- ✓ 1 set computer system
- ✓ Movable clamp holder
- ✓ 4 target disk w/microdog
- ✓ Camera beam w/2 HD camera
- ✓ Wheel Chock
- ✓ Turn Table
- ✓ Camera Post/Ground Rod
- ✓ Touchless to Rim wheel clamp

Special Features:

- ✓ 6.4 MP Camera
- ✓ No Runout
- ✓ Aluminum Mini Target
- ✓ 3d Visual Display
- ✓ Jack up adjustment
- ✓ Smart TOE 1
- ✓ Smart TOE 2

Accuracy:

Items	Camber	Caster	Kingpin Inclination	Setback	Thrust Angle	Wheel Base	Truck Width
Range	±45°	±40°	±40°	±30°	±15°	<6m	<3m
Accuracy	±0.01°	±0.01°	±0.01°	±0.01°	±0.01°	±5mm	±5mm

Convex Mirror – 1 pc.

Hose pinch pliers kit– 1 pc.

Camber gauge– 1 pc.

Break caliper wind back tool set – 1 set

**3. 1 unit - SCISSOR LIFTER**

Features:

- ✓ Lifts suitable for surface or in-ground installation
- ✓ Hydraulic synchronization with safety device to avoid unexpected uneven of platforms.
- ✓ Pneumatic Self Lock and Mechanical Release
- ✓ Automatic stop at the maximum lifting height
- ✓ Overload valve equipped
- ✓ Manual emergency lowering
- ✓ Heavy Duty Electric Motor

Technical Specification:

Machine Type:	Scissor Type Car Lifter
Suitable:	Cars, SUV and Light Trucks
Lifting Capacity (Ton):	3.5 Tons
Jack Type:	Centering Rolling Jack
Secondary Lifting height:	460mm
Minimum Height:	180mm
Width Between 2 Platform:	967mm
Lifting Time for Jack:	20 Seconds
Lifting Time for Main Lift:	30 Seconds
Overall Length:	4500mm
Platform Width:	640mm
Lifting Height:	1670mm
Lifting Time:	50 Seconds

Motor Voltage: 220V /1ph  
Motor Power: 2Hp/ 60 Hz

Tool Caddy w/o tools (7 drawers)

#### 4. 1 unit - WHEEL BALANCER

Features:

- ✓ Automatic detection of distance and diameter data of the tire.
- ✓ Suitable for Motorcycle, Cars and Light commercial vehicle.
- ✓ Has a LED side lamp that makes weight positioning more visible.
- ✓ Mechanical brake for weight addition and wheel mounting.
- ✓ Has a power saving mode, machine switches to standby mode when not used for 5mins.

Technical Specification:

Rim width:	15" – 20"
Max wheel weight:	70kg
Balancing time:	7 seconds
Max Wheel width:	1,100mm
Rotation per min.:	140rpm
Rim Diameter:	1" – 28"
Power Supply:	220V

1/2" air impact wrench kit – 1 set

PU Air hose 15M – 1 pc.

Wheel weight removal tool – 1 pc.

Tire stone pick – 1pc.

Wheel weights – 25pcs.

#### 5. 1 unit - PETROL/DIRECT INJECTION

Description:

- The education stand is so designed, that all functions can be seen from front view and back view, so the teacher can instruct behind the stand without obstructing the view on the front side.
- The cylinder head is built separated and is endued with distance pieces. Therefore, it is also during the operation warranted that you can see the camshaft and the chain drive in operation.
- The rail pump is like in the car, activated by the camshaft.
- The spark plugs and the spark coils are located outside the cylinder head and are fully functional.
- The first cylinder is being cut and shows very clearly the direct injection and the tumble principle.
- The education stand has two floor cupboards in which the electric control cabinet and the tank with impounding basin are located.
- All components, which are necessary for the real operation are original components and can be activated with rocker switches. For every component one potentiometer is mounted, which is activated in the opposite direction as the rocker switch and allows optional adjustment. Types of control and redundancies become visible.
- Furthermore, the original OBD interface is lead through to have the possibility to connect all standard testers. Real garage situations are simulated by a failure switching box and create new situations for the apprentice.
- The drive comes from a 400 V three-phase ac motor. A frequency converter provides for the required ranges of speeds for the cylinder head.
- All parts are labelled with name and the respective symbol.

- The education stand is mobile through four brake able roles with a diameter of 125 mm.
- The panel comes with a mushroom-type palm-button, ignition switch, ignition control lamp and OBD-interface. All frame parts are of high strength, extruded aluminium sheath.

Standard equipment:

- Control box with ignition switch, emergency stop switch and OBD port
- Interface for pupils measuring station
- Fuel tank with original inline-tank pump and control unit for fuel pump
- Level indicator on the instrument cluster
- Fuel cooler for the current with test oil system
- Blank driving shut-off for the closed system at any leak
- Decoupling driving encoders with manual speed adjustment for load simulation

Suitable for:

- Automotive mechatronics / technician specializing passenger car technology
- Service engineer / technician
- Master / technician in the automotive technician crafts

Learning Objectives:

- Work with schematics, circuit symbol, terminal designations, wires, connectors
- Name of mechanical, electrical and electronic components, assemblies and Systems
- Document the measured values, signals and error logs and this analysis and evaluation
- Use the options workshop conventional diagnostic equipment
- Selecting and using and electrical and electronic test and measurement Equipment

Scope of delivery:

Immediately deployable and mobile motor function incl. Fault circuit diagrams, operating instructions and regulated 12 volt switching power supply.

Technical data:

- Power supply: 400 V, 3-Phase, 16 amps
- Dimensions: L x W x H (1,500 x 600 x 1,960 mm)
- Weight: about 240 kg

Trainee measuring station - 1 unit

Description:

- The student measuring station for training stands is a line of general purpose, robust plastic case with carrying handle. The case is equipped with 45-point sockets with 2mm diameter.
- The measuring system can be used on all training stands that have the corresponding interface. Each test site includes an expansion via plug-in connection to up to a total of 14 units.
- A connecting cable for connection and or extension is supplied with each measuring station.
- For each level of training, or functional model a suitable circuit diagram pad for the student measuring station is required.

Test Box, 105-pin - 2 units

Description:

- For a complete review of the Engine control unit and to ensure the functioning of the engine, are two Check Boxes per adapter needed. When used on motor function training systems, the test boxes are provided with mounting brackets so can be hung on to the holding frame.
- The test box is equipped with a 2mm safety test sockets.

- The test box is completely shielded from external radiation and has an additional ground wire.

#### Adapter Cable set, 154-pin - 1 unit

##### Description:

- The adapter cable is required in connection with the new test box to check the engine control unit. There used to measure two Check Boxes.
- The measurement is performed in parallel connection. The adapters have additional ground connections.

##### Scope of Delivery:

- 1 adapter cable, 60-pin
- 1 adapter cable with 94-pin
- 1 original Hard storage case with foam inserts

#### Circuit Diagram Pad - 1 unit

##### Description:

- The diagram switching signs and symbols were created according to original circuit diagram of the training stand. It contains exemplary excerpts from the overall system.
- The inputs and outputs of the components which need to be tested are labelled with the pin assignment according to original plan.

#### Diagnostic System Basic Kit - 1 unit

##### Description:

- The diagnostic system supports all vehicles from 1992 up to the current model series. This further development of the worldwide popular diagnostic system interface hardware can be used as usual with the Windows-based software.
- This interface also enables cross-brand exhaust relevant diagnostic functions. Due to the license dongle function interface hardware, the system is also multi-user capable.

##### Advantages over older diagnostic systems:

- Removable and exchangeable as well as robust USB cable
- Support for new vehicle generations from model year 2016
- Improved materials for greater stability, increased durability, improved appearance and ease of use
- Up to 3x faster communication at the vehicle
- New microcontroller that enables future expansion of functions

##### Technical Data:

1. 16-pin connector made of fibre-reinforced ABS plastic with very good fit
2. Gold-plated contacts for maximum stability and contact reliability
3. 2 LEDs for multicolor display of the connection type
4. 2 CAN diagnostic cables (KWP 600 and KWP 700)
5. 2 K diagnostic cables (KWP 1281 and KWP 2000)
6. License dongle function for diagnostic software
7. Automatic baud rate detection

## 6. 1 unit - SENSORS/ACTUATORS

##### Description:

- The objective of this training stand is to tailor training of the IPO principle (Input-Processing-Output) and provide visible examples of this. The components fitted are color coded based on their respective task.
- The front panel is also laminated with a printed film, which can be written on using water-soluble pens.

- All required circuit diagrams and documents are supplied as hard copies and on a USB flash drive.
- The components are connected using plug-in connectors with measuring sockets 4 mm in diameter for 12-volt connections and 2 mm in diameter for 5-volt connections. These allow the voltages and signals to be measured, recorded or visualized using a multimeter or oscilloscope.
- Mass points are additionally installed at various positions to simplify measurements. All measured values are also to be exported to the measured value blocks via the OBD interface using a suitable diagnostics system.

The following are located on the front panel along with a digital print of the wiring diagram:

Sensors:

- Hall sensor, inductive sensor, reed contact, knock sensor, NTC and PTC sensor, TPMS sensor, photosensors, pressure sensors, position indicators, angle sensors, hot-film mass airflow sensors, active wheel speed sensors and additionally a wheel speed sensor with reversing detection.

Actuators:

- Ignition coils with power output stages, spark plugs in the Makrolon block and connection valves for under pressure and overpressure, electromotive throttle controller, transducer, injection valve, brake control unit, instrument cluster
- One digital hot-film mass airflow sensor is also fitted (HFM 6). A hairdryer can be used to simulate the air flow and an oscilloscope enables the pulse-width modulation during this air flow to be visualized.
- The functional model is activated via the operator panel, which includes the ignition starter switch, the interfaces for OBD and training measuring stations, as well as an emergency stop switch.

Standard series equipment:

- Ready-to-use and movable functional model
- Voltage-stabilized switched mode power supply
- Front can be labelled with marker pens
- OBD diagnostics interface
- Interface for training measuring stations

Suitable for:

- Motor vehicle mechatronic engineer with a focus on passenger car technology
- Motor vehicle mechatronic engineer with a focus on system and high-voltage technology

Possible uses:

- Working with wiring diagrams, circuit symbols, terminal designations, wires and wiring connections
- Measuring, documenting and evaluating electrical variables and signals
- Making use of the possibilities offered by standard workshop measurement and diagnostic equipment
- Identifying individual components and learning about their operating characteristics and parameters
- Examining individual components and making a decision about necessary repair measures

#### Learning objectives:

- Working with maintenance schedules, wiring diagrams, circuit symbols, terminal designations, wires and wiring connections
- Naming electrical and electronic components, functional units and systems
- Selecting and using electrical measuring and testing equipment
- Measuring and evaluating electrical variables and signals
- Documenting work results and evaluating them by comparing them with calculated variables and manufacturer specifications
- Documenting, analyzing and evaluating measured values, signals and error logs

#### Scope of supply:

Ready-to-use and movable functional model, including voltage-stabilized 12 volt switched-mode power supply, data sheets, wiring diagrams, manual and operating instructions.

#### Specifications:

- Power connection: 110/240 volt mains connection
- Dimensions: L x W x H (1600 x 800 x 1950 mm)
- Weight: Approx. 160 kg

#### Digital storage oscilloscope - 1 unit

##### Description:

- 20 MHz/2 CH Digital Storage Oscilloscope.
- USB interface
- Socket for USB-stick to save data portable
- Support alternative trigger
- Advantage video trigger function and optimize trigger sensitivity
- Record length 6K
- True RMS multimeter
- Dual independent galvanic separated (for multimeter and between oscilloscope and multimeter)
- Auto-scale and auto-setup function in oscilloscope mode
- 5 V / 1 kHz output for adjusting the measurement probes
- Safety: EN 61010-1: CAT II 400 V

##### Scope of delivery:

- AC-DC-adaptor
- 2 pcs. oscilloscope probes
- test leads
- cable for connection to USB mass storage
- extension module for small capacitance measurement
- USB-interface cable
- software-CD for Windows 2000/XP/VISTA/WIN-7/8/10
- carrying case and manual

#### Measurement Cable Kit/test lead set - 1 unit

##### Scope of delivery:

- 1x dolphin clip black short circuits protected 4mm socket
- 1x dolphin clip red short circuit protected 4mm socket
- 1x 4mm safety tip, black with spring cage connector
- 1x 4mm safety tip, red with spring cage connector
- 2x BNC test lead with 4mm safety plugs, 160cm, silicone isolated
- 1x probe 2mm, black
- 1x 2mm probe, red

- 1x soft storage bag

**Warranty, Terms and Conditions:**

- 2-years product warranty
- 10 years availability of spare parts

**Bidders must submit the following:**

- Technical specifications details or Technical data indicating the brand name and model of item/s as additional technical requirements.
- After sales training-workshop at Nueva Ecija University of Science and technology after completion of deliver.

The schedule of the bidding activities are as follows:

<b>Activities</b>	<b>Schedule</b>
1. Advertisement/Receipt of Letter of Intent	January 26, 2021 to February 02, 2021
2. Pre-bid Conference	February 04, 2021 10:00 AM NEUST President’s Office Conference Room, Sumacab, Cabanatuan City
3. Submission of Bids	February 16, 2021, UNTIL 5:00 PM NEUST President’s Office Conference Room, Gen. Tinio St., Cabanatuan City
4. Opening of Bids	February 17, 2021 09:00 AM NEUST President’s Office Conference Room, Sumacab, Cabanatuan City
5. Post Qualification	February 18, 2021 09:00 AM NEUST President’s Office Conference Room, Sumacab, Cabanatuan City

Letter of Intent must be submitted personally and in hard copy format at the Office of the BAC Secretariat, NEUST, Gen. Tinio (St.) Cabanatuan City on or before 5:00PM on February 02, 2021.

Bidding will be conducted through open competitive bidding procedures using a non-discretionary “pass/fail” criterion as specified in the 2016 Revised Implementing Rules and Regulations (IRR) of Republic Act (RA) 9184, otherwise known as the “Government Procurement Reform Act”.

Bidding is restricted to Filipino citizens/sole proprietorships, partnerships, or organizations with at least sixty percent (60%) interest or outstanding capital stock belonging to citizens of the Philippines, and to citizens or organizations of a country the laws or regulations of which grant similar rights or privileges to Filipino citizens, pursuant to RA 5183.

A complete set of Bidding Documents may be acquired by interested Bidders from February 04 – February 16, 2021 upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB in the amount of P25,000.00.

It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) and the website of the Procuring Entity, provided that Bidders shall pay the applicable fee for the Bidding Documents not later than the submission of their bids.

Bids must be duly received by the BAC Secretariat at the address below on or before February 16, 2021 - 5:00PM. All Bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in the PBD.



Bid opening shall be on February 17, 2021, 9:00AM at NEUST Conference Room, Sumacab Campus, Cabanatuan City. Bids will be opened in the presence of the bidders' representatives who choose to attend at the address below. Late bids shall not be accepted.

The Nueva Ecija University of Science and Technology reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Section 41 of RA 9184 and its IRR, without thereby incurring any liability to the affected bidder or bidders.

For more information concerning this bidding, please contact the following:

MS. MICHELLE A. SUPEÑA  
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Email Address: neustmain@yahoo.com

Approved by:

**DR. HONORATO P. PANAHO**

BAC Chairperson