

## **MAJOR PROGRAMS AND PROJECTS CLASSIFIED ACCORDING TO 5 KRAs**

### **KEY RESULT AREA: HUMAN DEVELOPMENT AND POVERTY REDUCTION-**

#### **PUBLIC HIGHER EDUCATION REFORM ROADMAP**

##### **(Upgrading and Modernization of Infrastructure Facilities and Equipment of Leading SUCs through CHED's Disbursement Acceleration Program)**

#### **I. Rationale/Background of the Project**

The Polytechnic University of the Philippines (PUP), founded in 1904 as Philippine College of Commerce, has been serving the sons and daughters of the less fortunate Filipino families for more than a century. Its transformation into multidisciplinary university laid down its strong commitment towards a national comprehensive educational system with curriculum program and practical application laboratories and faculty competent to the needs of the industry. PUP offers programs in engineering, information technology, nutrition, sciences, accountancy, business administration, arts, law and other allied courses relevant to its mandate.

With the College of Engineering in the forefront of the flagship carriers of the University, PUP specifically offers programs like Bachelor of Science in Computer Engineering (BSCOE), Bachelor of Science in Electrical Engineering (BSEE), Bachelor of Science in Electronics and Communication Engineering (BSECE), Bachelor of Science in Mechanical Engineering (BSME), aside from Bachelor of Science in Civil Engineering (BSCE) and Bachelor of Science in Industrial Engineering (BSIE).

With the latest revision in the curriculum, the BSCOE, BSECE, BSEE, BSCE and BSME upgrade the standard matched with the industry competency requirement and instrumentation and automation processes. The laboratory exercises are greatly focused to further enhance the practical aptitude of the graduates along with assuring maintained high performance in the licensure examination, thereby producing caliber engineers that are globally competitive. The integration of the theories and applications of robotics, mechatronics and artificial intelligence which are highly necessary in design and production are deeply taken seriously by benchmarking on the practice of the school in the industrialized country anchored on the manufacturing plant setting being shared through the faculties that are practitioners from several multinational companies operating in the Philippines. It is therefore, PUP's motivation to further challenge itself to become the center of excellence in engineering education.

In the pursuit for continuing improvement, is therefore necessary to establish and install an Industrial Electronics Training Center at the PUP College of Engineering Main Campus, through the assistance from the Commission on Higher Education (CHED).

#### **II. Goals and Objectives**

The establishment of Industrial Electronics Training Center at the PUP College of Engineering in Sta. Mesa, Manila through the assistance from the Commission on Higher Education (CHED) by providing additional financial support is aimed at upgrading the University's institutional capability and to sustain the development efforts towards meeting the challenges of producing the required manpower resources needed for accelerated national development and in support of the Administration's thrusts towards alleviating poverty and improving the country's competitiveness.

**Specifically, this project aims:**

1. To lay down strong commitment of the University towards a national comprehensive educational system with curriculum program and practical application laboratories and faculty competent to the needs of the industry;
2. To upgrade the standard of engineering programs being offered by the University to match with the industry competency requirements and instrumentation and automation processes; and
3. To become the center of excellence in engineering education.

**III. Responsibilities of the Implementers**

The following are the roles and responsibilities of the Commission on Higher Education (CHED) and the Polytechnic University of the Philippines (PUP) in the implementation of the project:

1. The **CHED** shall:

- 1.1 Through its Disbursement Acceleration Program provide funding assistance to the PUP in the amount of SEVEN MILLION PESOS (Php7,000,000.00) for the development of Industrial Electronics Laboratory; and
- 1.2 Through the Monitoring and Evaluation Team, see to it that funds provided for the PUP shall be used properly and for the intended purposes specified.

2. The **PUP** shall:

- 2.1 Properly utilize the funds provided by the CHED and shall see to it that these are used for the purpose for which the same are intended, subject to the usual accounting and auditing rules and regulations;
- 2.2 Issue an Official Receipt for every amount received from the CHED;
- 2.3 Deposit with any government authorize<sup>3d</sup> depository bank nearest the project site;
- 2.4 Separately keep and maintain any/all necessary accounting ledgers/records for the project which shall be voluntarily submitted whenever required and subjected to monitoring and evaluation of the CHED Authorized Representative/s and furnish fully the certified true copies of any/all required documents;
- 2.5 Submit accomplishment/terminal report to the CHED within sixty (60) days after the completion of the project;
- 2.6 Submit liquidation report to the CHED, certified correct by the Accountant and approved by the head of the institution within sixty (60) days after the completion of the project;
- 2.7 Return to the CHED any/all unused balance of the project fund, including any/all income/interest earned generated from the same upon pre-termination or completion of the project within forty-five (45) but not more than sixty (60) calendar days, pursuant to Executive Order No. 338;
- 2.8 Abide by the provisions of COA Circular No. 94-103 which is made an integral part hereof and other government laws, rules and regulations directly or indirectly pertaining to projects funded either fully or partly by government agencies;

2.9 In realizing the project, and for the purpose of propriety, transparency and accountability, the PUP shall faithfully observe the provisions of RA 9184 and its Implementing Rules and Regulations; and

2.10 Adhere to the prescribed accounting entries for the booking up property/equipment purchased out of project funds.

#### IV. Project Logical Framework

**CHED SUCS Disbursement Acceleration Program (DAP)  
Infrastructure Facilities Upgrading/Monitoring  
PROJECT LOGFRAME**

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><b>GOAL:</b> Technological Skills Competency of both instructors and students in the field of Industrial Electronics enhanced through the establishment of Industrial Electronics Training Center</p>	<ul style="list-style-type: none"> <li>• Memorandum of Agreement signed</li> <li>• The Polytechnic University of the Philippines Industrial Electronics Training Center</li> </ul>	Evaluation Report	The PUP Industrial Electronics Training Center is evidently eager to heighten fitness skills of its target clientele and resolute in the advancement of laboratory equipment, training modules and facilities.
<p><b>PURPOSE:</b> Enhancement of the competency skills of both instructors and students fitted with the industry standards through state-of-the-art industrial electronics laboratory equipment, modules and facilities</p>	<ul style="list-style-type: none"> <li>• Target clientele enhanced their skills by 50% by 2013</li> <li>• Laboratory equipment and facilities upgraded by 60% by 2013</li> </ul>	Evaluation Report	Competency skills of both instructors and students matched the industry requirements.
<p><b>OUTPUTS:</b> Industrial Electronics laboratory equipment, modules and facilities improved competency skills of both instructors and students in the field of Industrial Electronics.</p>	<ul style="list-style-type: none"> <li>• Industrial Electronics Laboratory equipment/module inclusive of Power Electronics, Microcontroller and Embedded Systems, Motion/Sequence Trainer, Programmable Logic Controllers with Robotics Application Module, and i-learn software and computer sets acquired</li> </ul>	Progress Report	Performance of both instructors and students are monitored and evaluated

	<ul style="list-style-type: none"> <li>• Training programs conducted</li> </ul>		
<p><b>ACTIVITEIS:</b></p> <ol style="list-style-type: none"> <li>1. Organize Project</li> <li>2. Project Preparation <ol style="list-style-type: none"> <li>2.1. Prepare detailed technical requirement of needed laboratory equipment/modules and facilities</li> <li>2.2. MOA Signing</li> <li>2.3. Acquisition of identified laboratory equipment/modules and facilities</li> <li>2.4. Conduct training to would-be trainers</li> </ol> </li> <li>3. Project Implementation</li> <li>4. Project Monitoring</li> <li>5. Project Evaluation</li> </ol>	<ul style="list-style-type: none"> <li>• Industrial Electronics Equipment inclusive of Power Electronics, Microcontroller and Embedded Systems, Motion/Sequence Trainer, Programmable Logic Controllers with Robotics Application Module, and i-learn software and computer sets</li> <li>• Air-conditioning Units, Tables, Chairs, Storage Cabinets</li> <li>• Upgrading of laboratory room</li> <li>• All in all amounting to Php7,000,000.00</li> </ul>	Progress and Financial Reports	Acquired laboratory equipment/modules are utilized in training both instructors and students in Industrial Electronics



Republic of the Philippines  
**POLYTECHNIC UNIVERSITY OF THE PHILIPPINES**  
**ELECTRONICS ENGINEERING LABORATORY**

**STATUS REPORT OF THE INDUSTRIAL ELECTRONICS LABORATORY**

(As of 23 November 2013)

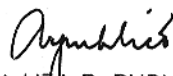
Module	Equipments	Location	Benefits	Remarks
I. <b>Power Electronics</b>	SCR Triac Power Control with CAI Software (Unlimited Installation)  Power Electronics with CAI Software (Unlimited Installation)	CEA 303	Appreciation and actual simulation via the experiment board unit and the Computer Aided Interfaces allows quality understanding on topics concerning Power Electronics sufficient to be knowledgeable in actual industry set-up.	Satisfactorily received at the College of Engineering last October 22, 2013. 1 Unit for SCR Experiment Board 1 Unit for Power Electronics Experiment Board 1 Base Frame Power Supply 1 CAI CD  Training was conducted last October 27, 2013 and scheduled to conduct the second training on November 27, 2013.  Inspected last 15 November 2013.
II. <b>Microcontrollers and Embedded Systems Microcontrollers</b>	32-Bit Microprocessor Interface Board with CAI Software (Unlimited Installation)  Serial Interface Board  Programmable Systems with CAI Software (Unlimited Installation)  Memories Trainer with CAI Software (Unlimited Installation)  Simple Robotics  Base Frame Power Supply With Virtual Instrumentation	CEA 303	Appreciation and actual simulation via the experiment board unit and the Computer Aided Interfaces allows quality understanding on topics concerning Power Electronics sufficient to be knowledgeable in actual industry set-up.  Simple Robotics allows students and faculty members to enhance programming and design skills in simple automation designs.	Satisfactorily received at the College of Engineering last July 31, 2013. 5 Units of 32-Bit Microprocessor Experiment Board 1 Memories Experiment Board 5 Base Frame Power Supply 1CAI CD 12 Robokit # 2 Manuals  Training was conducted last July 31, 2013.  Inspected last 15 November 2013.
III. <b>Motion/Sequence Trainer</b>	Stepper Motor Trainer	CEA 303	Set's up the academic development through exposure to simulated actual industrial automation.	Satisfactorily received at the College of Engineering last October 22, 2013.  1 Stepper Motor Unit Manual  Training was conducted last October 27, 2013 and scheduled to conduct the second training on November 27, 2013.  Inspected last 15 November 2013.  *Wiring Connection missing (not delivered)


Module	Equipments	Location	Benefits	Remarks
IV. PLC with Robotics Application Module	Basic PLC Trainer  Robotics Application Module	CEA 303	Combines actual setting of industry and theoretical ideas through relevant designing and programming that is then tested to the actual application module.	Satisfactorily received at the College of Engineering last October 8, 2013. 1 PLC Experiment Table 1 Four Storey Elevator Control Module 1 Traffic Signal Light Control Module 1 Multi-Liquid Mixing Control Module 1 Material Transport Module 1Accomodation Distribution Module 1Water Tower Level Control Module 1Steel Rolling Process Control Module 1Manipulator Control Module 1Motor-Bidirectional Rotation and Dynamic Braking Module 1 Tool Magazine Selection Control Module 1 Four Section Transmission Belt Module 1 Five Phase Stepping Motor Module 1 Y/Y Delta Reversing Start Control Module 1 Style Fountain Control Module 1 Auto-Control Shaping Machine Module 1 AutoWashing Machine Module 1 Plating Prodcut Control Module 1 Material Handling Vehicle Module 1 Material Handling Vehicle Control 1 Excavator Model 1 Four-layer Elevator Physical Model 1 Car Movement Control Model PP/PCI Cables CD Manual  Training is scheduled on November 25, 2013.  Subject for Inspection.

Module	Equipments	Location	Benefits	Remarks
<b>V. Computer Set</b>	24 Working Stations 1 Server	CEA 303	Design environment for electronics engineering which will then be catered by the computer set module.	Satisfactorily received at the College of Engineering last September 21, 2013.  CPU Specifications: OS: Win 7 Home Basic; CPU: Intel Core i5 3330 (Higher Specification); Chipset: Intel H61 Express; Memory: 4 GB DDR3; HD: 500GB SATA II; ODD: SuperMulti ODD; VGA: Integrated on Motherboard; LCD: 18.5" LED; Card Reader: 4 in 1; LAN: GB LAN
<b>VI. Room Rehabilitation</b>	Working Tables  Air Condition Units	CEA 303	It allows a conducive environment for academic development.	4 Aircondition Units have been installed.  There are 50 Monoblock Chairs, 50 Stool Chairs and QQ12 Computer Tables

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