



Exploitation plan for Problem-Based Learning Laboratory National University of Battambang (NUBB)

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1. Name of the lab

For the National University of Battambang (NUBB), the name of the lab built through the ALIEN project is “the Problem-Based Learning (PBL) LAB.” The project implementation team had a discussion with the Rector, who agreed to change the name of Information Technology Lab to PBL LAB. This lab is used by undergraduate and postgraduate students of different faculties and schools. Approximately 150 students use this lab for their studies weekly.



Figure 1. The ALIEN PBL Lab.

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2. Faculty in which the lab belongs

This lab belongs to the Faculty of Science and Technology that offers majors on Information Technology and Civil Engineering.

Organizational Structure of National University of Battambang (NUBB)

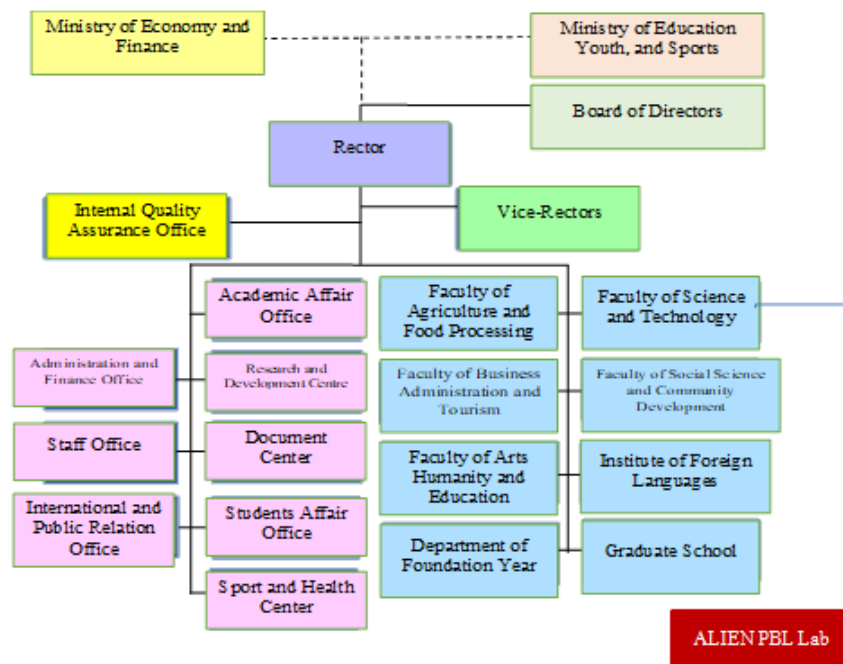


Figure 2. NUBB organogram, that shows the ALIEN PBL Lab.

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3. Purpose of the lab

This lab is purposively used for teaching and learning activities addressing both undergraduate and postgraduate students who may benefit from active learning. Several courses deploy problem-based and active learning since the method was introduced by the ALIEN project. The PBL Lab aims at promoting active learning deployment among students. It further offers equipment and software facilities. Lecturers use the PBL lab for instructional practices that apply experiences and knowledge acquired from the ALIEN project. Lectures promote active learning by using the PBL Lab for introducing problems to students. Students solve the problems in the PBL Lab, increasing their exposure to active learning.

3.1 Guidelines for use

The PBL Lab may be used for the instruction of any course in the Faculty of Science and Technology. It is further openly available to all lecturers who need to practice and to teach in the Lab. Further support is provided by a Laboratory and Network Administrator who is in charge of the maintenance and operation of the lab. To use the lab, an instructor is required to contact the administrator to reserve the room. The administrator provides guidelines to the instructor on the use of the lab. The administrator also supports the instructor for the setup of any necessary additional software on the lab's equipment to support the implementation of active and problem-based learning in his/her classroom. The PBL Lab is designed for use by 25 to 30 students working in 5 groups. Each group is allocated one PC and one Smart 42 inches TV that is used as a projector. The equipment is installed on a table with 5 chairs, with a total of 5 tables in the room. A LDC projector may be used to display a problem and explanations to students. The students may display their findings for the benefit of all in the class. All PCs are connected to the internet.

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D5.7 ALIEN SUSTAINABILITY PLAN

ALIEN LABORATORY EXPLOITATION PLAN

For example, the PBL Lab is used to teach the Course of Scientific Writing and Communication to a group of 60 4th year students. During the course the lecturer displays a problem on the screen and the students solve the problem in groups.

3.2 Activities and courses

Following are subjects that already use ALIEN's PBL Lab.

1. JavaScript.
2. Data Communication and Networking.
3. Management Information System (MIS).
4. Scientific Writing and Communication.
5. Creating an HTML Web Page.
6. Safety in Construction.
7. Structural Analysis.
8. E-Commerce.
9. Advanced Calculus.
10. Construction Technology.

Detailed descriptions of course content and the implementation of active and problem-based learning in each is available on the ALIEN project "Evaluation of the Implementation Phase" Report. Activities will continue beyond the end of the ALIEN project implementation.

Activities will be coordinated by the Faculty of Science and Technology and supported by the Information Technology Center and Administrative and Financial Office. The role of the Information Technology Center is maintaining the PBL Lab and promoting its use to other

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faculties. This approach allows the continued use of the PBL Lab by students in courses even after the completion of the ALIEN project.

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4. Resources

4.1 Equipment

The following figure demonstrates the equipment available in the lab:

The hardware acquired in the framework of the ALIEN project consists of 6 Dell Computers, 5 Mobile Stands, 1 LCD Projector, 2 Laptops, and 1 WiFi Router Link. Specifically, the following equipment is available in the laboratory:

- 6 Dell computers.
- 5 mobile stands.
- 2 computer laptops.
- 1 LCD projector.
- 1 wi-fi router.

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Inventory of NUBB Equipment

Based on the Erasmus+ Partnership Agreement on the project Support of ALIEN project: Erasmus+ **586297-EPP-1-2017-1-ELEPPKA2-CBHE-JP**, NUBB-ALIEN Team would like to put the equipment of ALIEN project which is funded by Erasmus+ Programme below to the National University of Battambang as the inventory equipment:

No.	Equipment	Quantity
		(unit)
1	Desktop Dell Core i7 Completed Set	6
2	Smart TV 43" Sony and Mobile TV Stands	5
3	D-Link Router WIFI	1
5	Apple MacBook Pro 15" 2018	2
6	LCD Projector (V11H740522 Epson EB-695Wi)	1

Done at Battambang, 10 March 2021

Having seen and approved

Rector 

SOK KHORN

Prepared by Project Coordinator


Dr. Sam Rany

Figure 3. Equipment available in the ALIEN PBL Lab.

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4.2 Staffing

NUBB is a public university. The ALIEN's PBL Lab belongs to the Faculty of Science and Technology. The faculty's staff is responsible for the operation and maintenance of all labs and the network infrastructure of the department. The ALIEN's PBL Lab is maintained by the faculty's technical and other supporting staff.

4.3 Financial support

Since the ALIEN's PBL Lab belongs to the Faculty of Science and Technology, it will be maintained and paid by the faculty based on the annual budget allocated by the university. The cost of operation will be covered by NUBB and the Ministry of Education, Youth, and Sport (MoEYS). The operational cost on the lab includes:

- The recruitment of technical staff and administrators for the purpose of maintenance and operation of the lab and network infrastructure.
- The equipment maintenance costs and laboratory consumables. Practically, equipment and electronic devices are removed (right off) after 5 years of operations or use. The Ministry of Education, Youth, and Sport and Ministry of Economy and Finance have financed NUBB based on the proposed annual budgets that cover all teaching and learning equipment.

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