

REPORT ON the Training on Linking PEO/PO/CO in Outcome-based Engineering Education

The training on Linking PEO/PO/CO in Outcome-based Engineering Education was held on **June 12th, 2021** virtually using Zoom platform. The training was hosted by the NPU-FEIAP “Belt and Road” Engineering Education Training Center (NFTC) under the support of CAST, China Association of Science and Technology. The speaker is Academician Professor. Ir. Dr. Chuah Hean Teik, Chairman of FEIAP Standing Committee on Engineering Education. A total of 312 participants from China, Myanmar, Malaysia, Singapore, the Philippines, Cambodia, Pakistan, Kenya, Nigeria, Rwanda and Mauritius, etc., attended the training.

Objectives of the training:

The objectives of the training are:

- 1) to familiarize participants with the theory of Student’s Learning Time (STL) and complex problems;
- 2) to help participants understand how to link PEO/PO/CO using detailed examples from UTAR;
- 3) to introduce Assessment of PEO/PO/CO with detailed examples for a degree programme;

The speaker will show how to link programme education objectives, programme outcomes and course outcomes with an actual example of a degree programme. Then assessment of engineering courses, and Industrial Training course will be explained. Assessment tools for PEO/PO/CO will be explained with actual examples.

In this part, the speaker, Academician Professor. Ir. Dr. Chuah Hean Teik, explained the STL, student learning time and some complex problems in the teaching and assessment process. Professor Chuah then used the examples from Universiti Tunku Abdul Rahman, where he was president, to explain what PEO, program education objectives, PO, program outcomes, and CO, course outcome, are and the major differences and key points to be noted were also stressed. How to link the three kinds of outcomes were explained using real examples from UTAR. Prof. Chuah also gave tips on how to write reports. In the Q&A session, Prof. Chuah answered questions from the participants about OBE curriculum in Engineering courses and programmes.

This training was attended by many participants from Africa who extended their deep appreciation to FAEO and FEIAP and their countries’ organizations for giving this opportunity to attend the training. They also expressed keen interest in attending future training courses organized by NFTC.



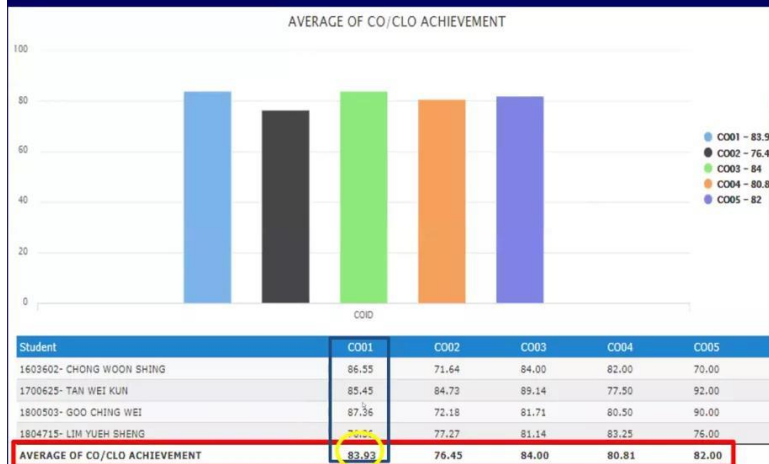
Student Learning Time (SLT)



- Effective learning time or student effort in learning or the learning volume (a quantitative measurement of **all** learning activities) in order to achieve the specified learning outcomes
- Include all learning activities - **formal and non-formal**
- Total time required by student to learn a particular component of curriculum: **Official Contact Time** + **Guided Learning Time** + **Self Study Time** (Independent learning) + **Assessment Time**
- Synonymous to student's academic load, e.g. credit hours



CO Achievement



Average of CO 1 Attainment = $(86.55 + 85.45 + 87.36 + 76.36) / 4 = 83.93\%$



Visions and Objectives
NPU-FEIAP B&R Engineering Education Training Center (NFTC)

Visions

1. To have a unified and inclusive Engineering Education Standards which promotes mutual recognition of the Engineering Education Programs (Engineer, Engineering Technologist and Technician programs) among Economies in the B&R Initiative region and FEIAP member economies.
2. To facilitate and to promote mobility of the Engineers, Engineering Technologists and Technicians among the economies in B&R Initiative region and FEIAP member economies.
3. To provide continuous professional development to increase the number of competent Engineers, Engineering Technologists and Technicians who will help the economies to develop into developed nations
4. To promote understanding of civilization in B&R Initiative region and FEIAP member economies via cultivation of cultural intelligence in engineering education.
5. To promote students exchange programs among universities in the B&R Initiative region and FEIAP member economies.

Objectives

1. The NFTC is set up in NPU, Xian, China.
2. To conduct Engineering Education Accreditation Training (EEAT) based on established FEIAP Engineering Education Guidelines, FIEAP Engineering Technologist and Technician Education Guidelines
3. The Engineering Education Accreditation Training (EEAT) will cover training of Assessors, Academics and Accreditation Agencies of the economies in the B&R Initiative region and FEIAP member economies.
4. To facilitate and promote of mutual recognition of Engineering Education Programs among the Universities in the B&R Initiative region and FEIAP member economies, which is keystone for the mobility of Engineering Personnel (e.g. Engineers, Engineering Technologists and Engineering Technicians).
5. To facilitate and promote students exchange program among the Universities in the B&R Initiative region and FEIAP member economies.
6. To facilitate and promote the mobility of engineering personnel (e.g. Engineer, Engineering Technologist and Technician) who has fulfilled the FEIAP Engineering Education Standards in the economies of the B&R Initiative region and FEIAP member

economies.

7. To conduct Professional Development courses for Infrastructure Development and Maintenance for the Engineers, Engineering Technologists and Technicians.
8. To facilitate and promote the networking of the engineering personnel (e.g. Engineer, Engineering Technologist and Technician and Academics) to share knowledge, experiences, business opportunities and friendship for closer ties among the engineering fraternity in the economies of the B&R Initiative region and FEIAP member economies.
9. To improve and keep up to development of the world on the Engineering Education and Training to benefit the economies of the B&R Initiative region and FEIAP member economies.
10. To be a platform for exchange of academics and engineering students in B&R and FEIAP member economies.