



DEVELOPING RENEWABLE ENERGY FROM WIND, WATER AND PV

COURSE PACKAGE AND SHORT-TERM PROGRAM (1 MONTH)
FOR BACHELOR'S AND MASTER'S PROGRAM



School of Electrical Engineering and Informatics



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TECHNOLOGICAL CHALLENGES IN RURAL AREAS

This program is interesting since the participants will feel the unique characteristics of electricity and telecommunications in Indonesia, so the characteristics of the rural area are the distinguishing values. Then you can customize your lecture needs with community development or just follow the community development. You can witness a regional development starting from nothing, no electricity, no communication. It means that the participants will be exposed to the sociocultural scope. You will get to know people who previously had no electricity and gain experience to interact with the surrounding community.

TECHNICAL & SOCIOCULTURAL SKILLS

In the lecture activities there will be practical activities and also site visits. At the end of the semester there will be community development program. In the Community Development, students will take part in the development of electricity, especially new and renewable energy, in remote or rural areas. For example, installing a solar power plant, where they will participate starting from the installation process and also interact with the surrounding community. Student can opt to experience telecommunication development by developing a telecommunication tower to provide internet access for remote areas. Then during college, there will be an excursion to Telkomsel or other telecommunication providers in Indonesia.

The skills that will be possessed after joining this program are technical skills regarding building NRE and telecommunication towers. Then teamwork is a must because the participants will work in a team. At the same time, the students will gain sociocultural skills, how to adapt, and how to communicate with people with various educational levels.





INDUSTRIAL VISIT AND COURSES

Industrial Visit - usually we visit Cirata hydro-power plant for there is an ecosystem of power plant including dam and hydroturbine. Cirata HEPP is the largest hydropower plant in South-east Asia, at 1008 MW of total capacity. The complex also hosts a photovoltaic (PV) power plant, extra high voltage substations (at 500 kV, the highest voltage level in Indonesia), a dam and a tunnel to enter the power plant. Although it is only one location, but there's a lot to learn.

Relevant courses include Power System Analysis because you have to understand the characteristics of electricity in Indonesia, then Power Electronics, Power System Protection courses, and System Engineering, totaling 12 credits. Then if they want to take part in the laboratory experiment, I suggest taking a 2-credit course called Power Engineering Laboratory, so total credits will be 14.

UNIQUENESS OF INDONESIA'S RURAL AREA

Rural Areas we will visit are Garut and Bekasi Regency, where power plants are often built locally to provide electricity, instead of through transmission lines. In rural areas, we develop mini hydroelectric power plant or PV power plant, according to the available local resources. The challenge is to harvest renewable energy such as solar, wind or water with the appropriate technology. Before the installation, of course, we first conduct a study in the area to determine the best technology that fits the energy source.

List of courses to be determined.



REGISTRATION PROCEDURE

- ▶ If you are a student from ITB's partner universities, have your International Office nominate you to

- iro@itb.ac.id

- ▶ If you are a student from non ITB's partner universities, you can submit your application directly to

- <https://admission.itb.ac.id/registration/nonreguler/>

- ▶ If you do not wish to take course packages, you can also take courses as standalone courses. You can check the list of courses here:

- bit.ly/ITBInboundCourses

- ▶ If you need more information, please check following:

- <https://bit.ly/ITBInbound>

Contact Information:

iro@itb.ac.id or drop a ticket

<https://helpdesk.six.itb.ac.id/>

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