Academic Impact (https://www.un.org/en/academicimpact)

Undergraduate students examine methods of energy recovery from factory-produced exhaust heat (Photo: UKK)

Training Students for the Green Jobs of the Future

The University of Kitakyushu (https://www.kitakyu-u.ac.jp/env/index.html) (UKK), a UNAI member institution in Japan, is engaged in the development of environment-focused human resources under its "Cultivate the Environment" goal, one of three goals formulated by the university in 2016. According to the institution, solutions to environmental problems require an interdisciplinary approach, and it is essential for students to acquire knowledge and skills from a wide range of fields, as well as develop networks with people in different professions and specialties.

To further this aim, UKK has designed and implemented a multidisciplinary academic course entitled "Environmental Technologies for the Future." Its purpose is to provide students with knowledge that will be essential for employment in future-focused industries, such as those related to offshore wind power and other renewable energies which are considered next-generation industries in the city of Kitakyushu, located in the south of the country and where UKK is based.

The United Nations Environment Programme (https://www.unep.org/) defines environmentally "sound" technologies as those that "from a life cycle perspective protect the environment, are less polluting, use resources in a sustainable manner, recycle more of their wastes and products, and handle all residual wastes in a more environmentally acceptable way than the technologies for which they are substitutes understand, utilize and replicate the technology, including the capacity to choose it and adapt it to local conditions and to integrate it with indigenous technologies."

The course offered by UKK provides practical examples of the role played by environmental technologies, how they are developing, and what types of technologies are currently attracting attention. The course incorporates lectures by experts from companies, governmental agencies and other universities. In 2020, a total of 200 students took the course, which covered issues such as air conditioning technology, environmental engineering approaches, artificial intelligence and other topics.

"This is an excellent opportunity to gain a better understanding about not only technologies related to environmental energy, but also environment-focused, energy-conscious social systems," said Prof. Yoshiaki Ushifusa, a professor of economics. "We really want to emphasize the importance of having an arts/science integrated approach as we believe in the university that this is truly the only way for our graduates to become professionals who can lead our society towards sustainability," he added.

"I feel that we should all encourage the use of renewable energies," said a law student. An environmental engineering student said that his objective was to "become someone who can assist in Kitakyushu's drive towards environment-focused progress and the creation of a city that people can proudly call home." A student in the foreign studies program added, "I now understand that there is also an economic aspect to renewable energies in that the industry creates jobs and contributes to the local economy."

This course is within the framework of the 2030 Agenda for Sustainable Development (https://sdgs.un.org/2030agenda), with a particular focus on Sustainable Development Goals 7 (Affordable and Clean Energy) (https://www.un.org/sustainabledevelopment/energy/), 9 (Industry, Innovation and Infrastructure) (https://www.un.org/sustainabledevelopment/infrastructure-industrialization/) and 13 (Climate Action) (https://www.un.org/sustainabledevelopment/climate-change/).