


付録 24. 簡易版パンフレット(英語版)



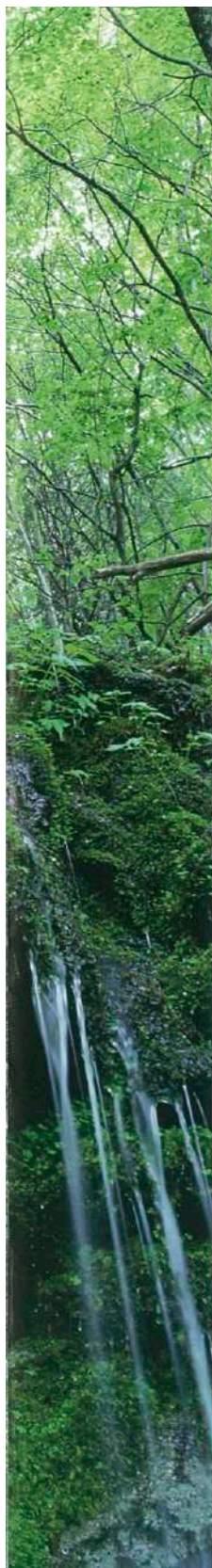


Overview

This educational program aims at the development of leadership in the fields of science and engineering to realize an Asia where greening and economic growth are compatible, which is symbolized as by 'Green Asia'. Achieving economic growth while drastically reducing resource consumption is a challenge that the entire world faces. Asia encompasses a large cultural and social diversity and is a typical model of an area forming a melting pot in which the economic growth and environmental problems are associated with each other. For countries the world over, to accomplish sustainable economic growth along with environmental and resource restrictions related to mass consumption of fossil fuels, a strategy for economic growth never before implemented, such as compatibility of the reduction of resource consumption with the increase of GDP, is required. Within this present century, the role of our country is the realization of a Green Asia by providing a model for internationalization associated with symbiotic relationships among countries, which is distinguished from the current and previous 'globalization'. Negative influences from the globalization have arisen, such as the ever-widening gap between the rich and the poor, rapid increase of energy consumption in Asia and price increases of fossil resources. The Global Strategy for a Green Asia is a flexible approach that is based on social, industrial and economically independent development rooted in Asian and Oceanian history and culture. Such an approach with a strong global network generates a synergistic effect between greening and growth.

Special features

Next generation industry is required to handle the challenge of compatibility between greening and economic growth (a simultaneous achievement between a drastic reduction in resource consumption and increase of added value productivity) to the point of added value oriented green engineering, which integrates existing technology in production processes, products and services. Such next generation innovations in leadership of the fields of science and engineering require the following characteristics: [1] the ability to go upstream with multistep-multiscale thinking, beginning with services, products → production process → process material technology → material → resources and energy resources, [2] analyzing and extracting abilities to overview the whole system and discover problems at components and elements of the system based on principles, [3] ability to develop the seeds for innovative technologies into actual processes, products and services. The ideal leadership method for industry and policy recommendation and planning authorities, is to integrate these abilities into study at universities for academic-industrial alliance. Graduate students taking doctoral courses for science and engineering can gain highly skilled abilities through practice through world class advanced study. Specialized abilities can be measured by the abilities [1]–[3] mentioned above, and these abilities can be developed potentially through the process of thesis study. However, manifesting and strengthening them and integrating it all into a one step advanced practice and study skill is not easy. If specialized research can be combined with social, economic and engineering system studies, analogy between science and engineering, and cultural science is created and students gain a scientific landscape of society through technology and industry. On site experience of industrial productions and R&D according to each student's specialized knowledge is also important to integrate the abilities mentioned in [1]–[3]. To develop leadership in science and engineering, integrating Asian and Oceanian societies and cultures into knowledge bases that directly utilize highly globalized perspectives and leadership is needed. Obtaining such knowledge and abilities isn't possible through lectures only. Studying and practice at actual production and R&D sites in Asia in collaboration with other Asian people are necessary to realize the Green Asia Strategy. Therefore, to obtain the necessary knowledge for these abilities, practices, training and studies are outlined as follows:

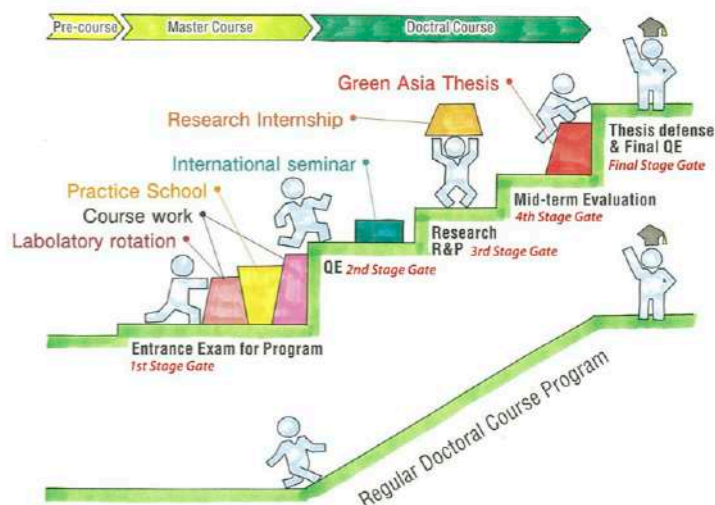


▼Abilities	▼Main Method of Obtaining	▼Corresponding Subjects, etc.
Research	[1] Study at research groups for 3 different fields [2] Obtaining highly specialized knowledge through advanced study [3] Specialized studies related to multiple subjects	[1] Research under the laboratory rotation system [2] Doctoral thesis under the stage gate method [3] Major specialized subjects and extended specialized subjects, etc.
Practice	[1] Exercises at study and development sites domestic and foreign countries [2] Lectures by invited instructors from companies	[1] Practice School (domestic companies), internship (foreign organizations, domestic organizations) [2] Industrial practice subjects, etc.
Global Perspective	[1] Expressing, discussing and writing training in English [2] Social and economic studies	[1] Two different international exercises (A, B) [2] Environmental science, social and economic study subjects, etc.
System Landscape	[1] Economic and social studies and environmental science [2] Integration of science and engineering, and humanities studies	[1] Environmental science, social and economic study subjects [2] International exercises A (Green Asia Forum) and creating thesis with free subjects, etc.
Leadership	[1] Leadership roles in two different types of international exercises [2] On site exercises with leaders in study and development of domestic and foreign countries [3] On site exercises in research instruction for junior students	[1] Leadership roles in two different types of international exercises [2] The practice school as well as domestic and overseas internships [3] On site exercises in research instruction, etc.

Degree Program



Global Strategy for Green Asia Program



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