Department of Hydrogen Energy Systems

The Hydrogen Energy Systems Course has being offered in the Graduate School of Engineering at Kyushu University (as of April 2010). This course is the first of its kind in the world, and offers a consistent education in science and technology related to hydrogen energy. For the realization of a low-carbon society, this new course aims to develop researchers and engineers who will master the basic scientific principles of environmentally-friendly energy technologies including hydrogen energy technology.

Mechanical engineering is a basis for energy system design. Since hydrogen is produced and used by conversion of energy resources, it is essential to understand the processes of chemical reactions as well. It is also necessary to understand the design of materials such as various metals, polymers and ceramics to be used in energy systems. In addition, knowledge regarding safety is required to promote public acceptance of hydrogen technology as safe and secure. Since these fields of study are common in the energy field, the Hydrogen Energy Systems Course takes an interdisciplinary approach to provide an education in energy technology focusing on hydrogen energy.

General and Global courses are available in the master's program, and the Advanced Global Course is available in the doctoral program. Under the admission, curriculum and graduation policies shown below, this course will present a clear path to develop the talent needed to lead a hydrogen energy society.

The students of the Hydrogen Energy Systems Course in the doctoral program can request financial assistance to allow them to concentrate on their studies. Moreover, we can help them build their careers together with the Fukuoka Strategy Conference for Hydrogen Energy.

Master's Program

General Course / Global Course

Graduation Policy (Exit)

- Mechanical engineers and researchers who understand the basic scientific principles of energy technology, such as functional materials, chemical process and safety engineering.
- Engineers and researchers who are capable of working internationally in a wide range of fields, including the environment and energy.
- Active generalist engineers

Curriculum Policy

■Develop mechanical engineers and researchers who understand materials and processes
- ·Production, storage and use of hydrogen
- ·Advanced subjects related to the themodynamics and mechanics of materials
- ·The study of functional/structural materials, and electrochemistry
- ·Energy policy and the management of technology

■Education to improve global perspectives and communication skills
- ·Lectures provided by foreign instructore in English
- ·Poster session in English at international conferences, etc.

■Practical Education
- ·Education provided by several professors with industrial experiences

Admission examination in English

Foreign students who have graduated from science or engineering departments of foreign universities

- Students who have graduated from science or engineering departments, such as mechanical engineering
- Students who want to become engineers or researchers in the area of eco-friendly energy

Admission Policy (Entrance)

Doctoral Program

Advanced Global Course

Graduation Policy (Exit)

- Experts in hydrogen energy
- Researchers with broad overview and ability for independent research projects
- Researchers and professional engineers who can become leaders in a low-carbon society
- Opinion leaders in energy policy

Career Support

Curriculum Policy

■Research based on the world's leading research facilities and circumstances

■Education to improve global perspectives and leadership ability
- ·Support for international internships (study abroad)
- ·Lectures provided by foreign lecturers in English
- ·Presentation opportunities in English at international conferences

■Practical Education
- ·Education provided by several professors with industrial experiences
- ·Research presentation opportunities to industry engineers, with the collaboration of the Fukuoka Strategy Conference for Hydrogen Energy

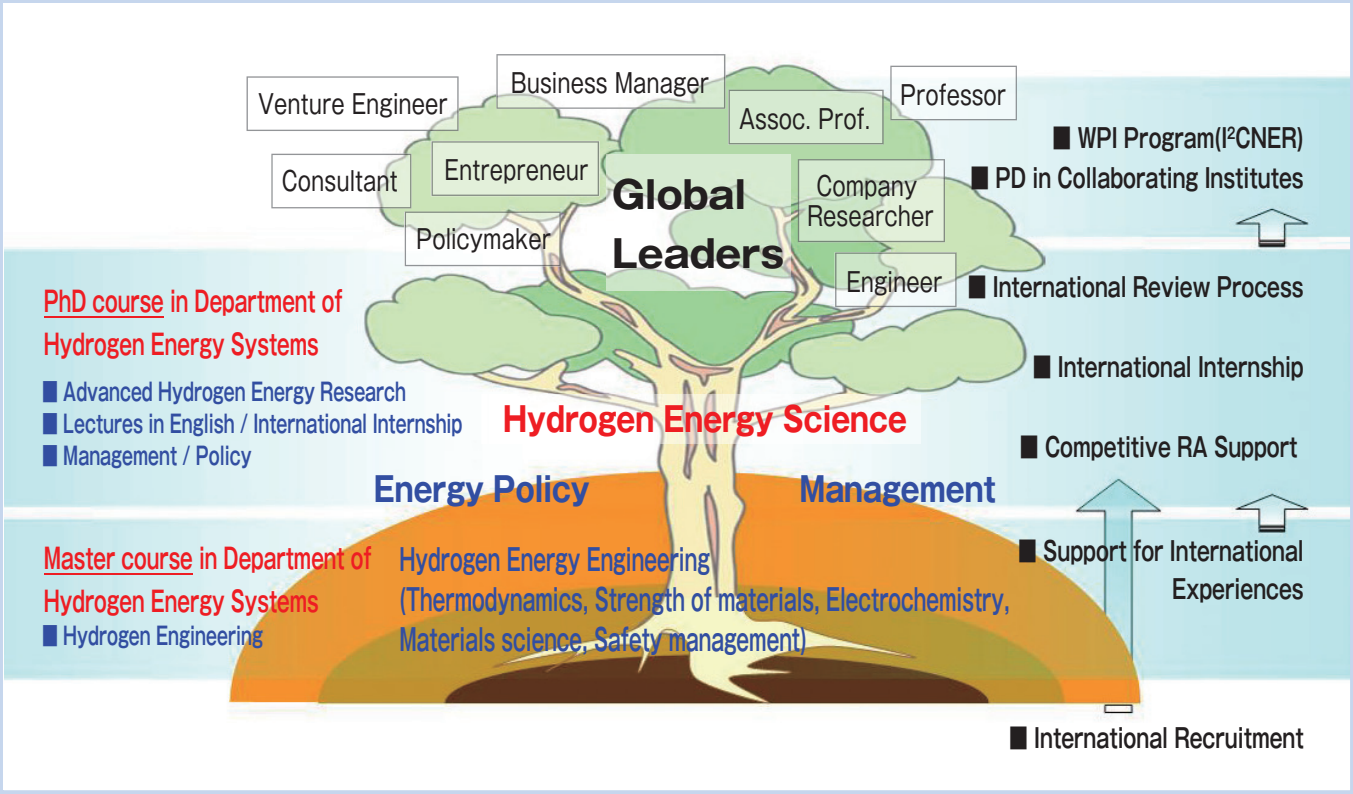
Activity Support

- Students who have finished the master's program of the Hydrogen Energy Systems Course, or other science or engineering courses
- Both students and industrial engineers who want to become leaders or professionals in the area of eco-friendly energy

Admission Policy (Entrance)

For more information regarding the new courses, please visit the Department of Mechanical Engineering website.
http://www.mech.kyushu-u.ac.jp/index-j.html

○ Overview of hydrogen energy education and outline of course offerings



Lectures	Year-Semester
Hydrogen Production	1-autumn
Hydrogen Storage	1-autumn
Hydrogen Utilization Processes	1-spring
Hydrogen Utilization Systems	1-autumn
Hydrogen Energy Society	1-spring
Safety Management	1-spring
Hydrogen Energy Engineering	1-spring
Clean Energy Technologies	1-autumn
Fatigue Strength	1-spring
Tribology	1-spring
Heat And Mass Transfer	1-spring
Reactive Gas Dynamics	1-spring
Mechanical Vibation and Acoustics	1-spring
Computational Mechanics	1-spring
Structural Materials	1-spring
Functional Materials	1-autumn

Lectures	Year-Semester
Electrochemistry	1-autumn
Fuel Cell Systems	1-autumn
Energy Policy	1 or 2-spring
Technology Management	1 or 2-spring
Advanced Energy Engineering Ⅰ	1 or 2-spring
Advanced Energy Engineering Ⅱ	1 or 2-spring
Fundamental Mechanical Engineering Ⅰ	1-spring
Fundamental Mechanical Engineering Ⅱ	1-spring
Fundamental Mechanical Engineering Ⅲ	1-autumn
Seminar on Hydrogen Engineering Ⅰ	1-spring
Seminar on Hydrogen Engineering Ⅱ	1-autumn
Internship for Hydrogen Engineering Ⅰ	1-spring
Internship for Hydrogen Engineering Ⅱ	1-autumn
Communication for Hydrogen Engineering Ⅰ	2-spring
Communication for Hydrogen Engineering Ⅱ	2-spring
Investigative Study on Hydrogen Engineering	2-spring