

## **Curriculum Policy of the Faculty of Engineering**

### **Department of Architecture**

Based on the Kobe University Curriculum Policy, the Department of Architecture of the Faculty of Engineering adopts the following policies in organizing its curricula.

1. In order to impress upon students a sense of humanity, creativity and international awareness, the university has established common courses to be taken by all students. These include basic liberal arts courses, integrated liberal arts courses, advanced liberal arts courses, foreign language courses, first year seminars, career courses, information science courses, health and physical education courses and other courses deemed mandatory.
2. The following specialist courses are offered in order to cultivate students' expertise and in-depth academic knowledge.
  - Common Foundation Courses for Majors and architecture-related basic courses are offered to enable students to develop a basic competence in and understanding of engineering as a foundation for diverse knowledge.
  - Courses related to planning, structural engineering, and environmental engineering are offered to allow students to gain knowledge of the basic fields of architecture, i.e. planning, structural engineering, and environmental engineering, which are fundamental for creating housing and architectural infrastructure as a platform for human life.
  - Seminars, Research Works, and Thesis Design are offered to allow students to develop the ability to integrate the knowledge they have acquired and pursue “spatial design” as a means to derive specific solutions for practical problems.
  - “Architectural Ethics”, “Life-cycle Management”, and other courses are offered to allow students to develop the ability to explore the social roles expected of architecture and utilize their expertise to contribute towards the creation of a prosperous society.

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning, practical training or other classroom formats.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

### **Department of Civil Engineering**

Based on the Kobe University Curriculum Policy, the Department of Civil Engineering of the Faculty of Engineering adopts the following policies in organizing its curricula.

1. In order to impress upon students a sense of humanity, creativity and international awareness, the university has established common courses to be taken by all students. These include basic liberal arts courses, integrated liberal arts courses, advanced liberal arts courses,

foreign language courses, first year seminars, career courses, information science courses, health and physical education courses and other courses deemed mandatory.

2. The following specialist classes are offered to enable students to develop their expertise through in-depth immersion in academic knowledge. (including common specialized foundation courses to be taken by all students and advanced courses that are offered by the faculty)

- For students' attainment of basic specialist competence, courses such as Materials Science and Engineering are offered.
- For students' attainment of the abilities in relation to multi-dimensional thinking and engineer ethics, Introduction to Civil Engineering and other classes are offered.
- For students' attainment of practical problem-solving abilities, classes such as Civil Engineering Practice are offered.
- For students' attainment of skills related to application of analytical tools and cutting-edge technology, and creative thinking, classes such as CAD Drawing in Civil Engineering are offered.
- For students' attainment of the abilities in relation to the environment, culture and history, classes such as Introduction to Global Environment are offered.
- For students' attainment of the abilities related to communication, guidance for the graduate dissertation is offered.
- For students' attainment of basic academic competence, classes such as Introduction to Continuum Mechanics are offered.
- For students' attainment of the ability to address challenges in a comprehensive manner, guidance for the graduate dissertation is offered.

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning, practical training or other classroom formats.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

### **Department of Electrical and Electronic Engineering**

Based on the Kobe University Curriculum Policy, the Department of Electrical and Electronic Engineering of the Faculty of Engineering adopts the following policies in organizing its curricula.

1. In order to impress upon students a sense of humanity, creativity and international awareness, the university has established common courses to be taken by all students. These include basic liberal arts courses, integrated liberal arts courses, advanced liberal arts courses, foreign language courses, first year seminars, career courses, information science courses, health and physical education courses and other courses deemed mandatory.

2. The following specialist classes are offered to enable students to develop their expertise through in-depth immersion in academic knowledge.
  - For students' attainment of diverse knowledge and experience as well as basic academic competence in electrical and electronic engineering, common specialized foundation courses to be taken by all students, common departmental foundation courses, and advanced courses are offered.
  - For students' attainment of knowledge and expertise in the field of physical electronics, courses related to physical electronics are offered.
  - For students' attainment of knowledge and expertise in the field of computer and information engineering, courses related to computer and information engineering are offered.
  - For students' attainment of knowledge and expertise in the field of electric power control, courses related to electric power control are offered.
  - For students' attainment of the ability to apply knowledge of electrical and electronic engineering to creatively considering and addressing challenges, electrical and electronic engineering laboratory courses as well as graduation research assignments are offered.

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning, practical training or other classroom formats.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

### **Department of Mechanical Engineering**

Based on the Kobe University Curriculum Policy, the Department of Mechanical Engineering of the Faculty of Engineering adopts the following policies in organizing its curricula.

1. In order to impress upon students a sense of humanity, creativity and international awareness, the university has established common courses to be taken by all students. These include basic liberal arts courses, integrated liberal arts courses, advanced liberal arts courses, foreign language courses, first year seminars, career courses, information science courses, health and physical education courses and other courses deemed mandatory.
2. The following specialist courses are offered to allow students to develop their expertise through in-depth immersion in academic knowledge (including common specialized foundation courses to be taken by all students and advanced courses that are offered by the faculty).
  - For students' attainment of diverse knowledge and experience as well as basic academic competence, common specialized courses, common departmental specialized courses, and

advanced courses are offered.

- For students' attainment of in-depth knowledge of the fields of thermo-fluid dynamics and specialized problem-solving skills, a group of specialist courses in mechanical engineering (category: thermo-fluid dynamics) are offered.
- For students' attainment of in-depth knowledge of the fields of material physics and specialized problem-solving skills, a group of specialist courses in mechanical engineering (category: material physics) are offered.
- For students' attainment of in-depth knowledge of the fields of mechanical control and specialized problem-solving skills, a group of specialist courses in mechanical engineering (category: mechanical control) are offered.
- For students' attainment of in-depth knowledge of the fields of mechanical design and manufacturing and specialized problem solving skills, a group of specialist courses in mechanical engineering (category: design and manufacturing) are offered.
- For students' attainment of competence in research and development as a mechanical engineer with specialist expertise, specialist courses in mechanical engineering (categories: laboratory/practice/exercise) and graduation research assignments are offered.

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning, practical training or other classroom formats.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

### **Department of Chemical Science and Engineering**

Based on the Kobe University Curriculum Policy, Department of Chemical Science and Engineering of the Faculty of Engineering adopts the following policies in organizing its curricula.

1. In order to impress upon students a sense of humanity, creativity and international awareness, the university has established common courses to be taken by all students. These include basic liberal arts courses, integrated liberal arts courses, advanced liberal arts courses, foreign language courses, first year seminars, career courses, information science courses, health and physical education courses and other courses deemed mandatory.
2. The following specialist courses are offered to allow students to develop their expertise through in-depth immersion in academic knowledge.
  - For students' attainment of academic literacy to understand the purpose, methods and fields of study in the Department of Chemical Science and Engineering, as well as their acquirement of high ethical standards and humanity from the perspective of chemical science, a group of introductory courses are offered.

- For students' attainment of basic competence and understanding in engineering as a basis of expertise in chemical science and engineering, a group of Common Basic Courses for Majors are offered.
- For students' attainment of in-depth knowledge and expert abilities in both applied chemistry and chemical engineering areas, a group of courses on physical chemistry are offered.
- For students' attainment of in-depth knowledge and expert abilities in material chemistry, a group of courses on Inorganic and Analytical Chemistry as well as on Organic and Polymer Chemistry are offered.
- For students' attainment of in-depth academic knowledge and expertise in chemical engineering, a group of courses on Transport phenomena/Process Design and Control, Separation Engineering and Chemical Reaction Engineering/Biochemical Engineering are offered.
- For students' attainment of competence in research to discuss and address social challenges using the knowledge of chemical science and engineering, a series of Special Lectures and graduation research assignments are offered.

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning, practical training or other classroom formats.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

### **Department of Computer Science and Systems Engineering**

Based on the Kobe University Curriculum Policy, Department of Computer Science and Systems Engineering of the Faculty of Engineering adopts the following policies in organizing its curricula.

1. In order to impress upon students a sense of humanity, creativity and international awareness, the university has established common courses to be taken by all students. These include basic liberal arts courses, integrated liberal arts courses, advanced liberal arts courses, foreign language courses, first year seminars, career courses, information science courses, health and physical education courses and other courses deemed mandatory.
2. The following specialist courses are offered to allow students to develop their expertise through in-depth immersion in academic knowledge (including courses on the basic specialist subjects common to all students and advanced subject courses that are offered by the faculty).
  - For students' attainment of high level specialist knowledge and the ability to apply this knowledge in practice, advanced specialist courses are offered.

- For students' attainment of diverse knowledge and experience, and the ability to apply them in practice, general specialist courses are offered.
- For students' attainment of basic competence in approaching challenges from a variety of perspectives, basic specialist courses are offered.
- For students' attainment of the ability to apply knowledge and to creatively approach challenges from a variety of perspectives, advanced specialist courses are offered.

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning, practical training or other classroom formats.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.