

## Course Descriptions

### □ Bachelor Program

#### ID211 Two-Dimensional Design

This course treats the topics of visual language and fundamental design theories for creating two-dimensional form. Emphasis is given to experimenting with visual elements such as shape, color and texture. The characteristics of visual, psychological and functional characteristics of form development are studied.

#### ID212 Three-Dimensional Design

In this course, students learn basic design theories and form construction techniques required for three dimensional forms and functions. The contents involve the lectures concerning basic shape elements and principles that consist of form and space, and practical methodology of creating form, function and aesthetics. Students improve their basic abilities as industrial designers by learning design materials and the characteristics of form composition.

#### ID213 Product Design Fundamentals

This is an introductory course treats the design problem solving methods. It covers a series of design process from new product concept development to manufacturing. Through the practical projects of designing low-tech products, students gain abilities to organically restructure and optimize form and function of new products that overcome existing limitations. (Pre-requisite Courses: ID211, ID212)

#### ID214 Digital Design Graphics

This course is designed to study the fundamentals of computer graphics and to create an animation film. Emphasis is given to the understanding diverse computer graphics techniques and applying them into diverse multimedia design works.

#### ID215 Introduction to Industrial Design

This course is an introduction to the industrial design theories and history. Basic scientific epistemology in connection with the design history and cultural design sociology is studied and surveyed. Among the epistemology covered are the definition of industrial design, design object and its gestaltung and functions. Emphasis is placed on applied methods of the social aesthetics, ethics and science in the design development process for social environment design.

#### ID216 Product Design Engineering

This course is an introductory course to engineering product design covering from innovative concept development to optimization of manufacturing technology. Students have the opportunity to learn fundamentals in engineering, component design, engineering design, and production process which are essential for interdisciplinary collaborative work with engineers.

#### ID217 Presentation Techniques

This course is designed to study the presentation techniques for generating and visualizing design ideas. Emphasis is given to understanding diverse media (hand drawing and computer graphics) applications for creating perspectives, rendering and simulations.

#### ID218 Photo Techniques

This course introduces basic techniques of photography and examines their visual messages and aesthetics. The course covers specific photographic techniques used in product design and gives students experience with basic darkroom techniques

#### ID301 Product Design Factors

This course is designed to understand basic elements on product innovation, human factors, production process, application of material and manufacturing technology. Projects cover a range of mass produced products drawn from industrial, consumer or institutional fields. (Pre-requisite Course: ID213)

#### ID302 Space Design

The purpose of this course is to understand relationships of products and humans in given space and solve problems for grasping basic concepts of space. Especially, through design studies of exterior and interior space

and artifacts, researchers will develop scale-sense, space-sense, and capabilities of forming space.

#### ID303 Design Methodology

The course is designed to cover three main topics: how design process is structured; effective design methods for each stage of design process; the fundamental nature of design problem. Students learn various design methods for problem analysis, creative generation of design solution and evaluation of design alternatives throughout design process.

#### ID304 Product Design Program

This course is a studio course to cover the planning stage of new product development with focus on user and market. The course covers various user-centered methods such as video-ethnography methods, scenario-based design, survey, marketing statistics. Students learn to understand user experience and generate innovated concept of new product which leads to user satisfaction. (Pre-requisite Course: ID301)

#### ID305 Web Design

This course is designed to study design process, techniques, and database in Web design. Emphasis is given to the creative web design process from concept development, contents creation, web programming, and other new technology applications.

#### ID306 Multimedia Design I

This course is designed to understand the complicated features of multimedia technology and industries, and to study multimedia design theory and its applications. Emphasis is given to experimenting image, sound, and video editing techniques for creating multimedia title designs.

#### ID307 Interface Design

This course is a studio & lecture course to develop user-interface design for digital information appliances and software through the application of basic interface design theories. The course covers various methods for user-interface design such as cognitive guidelines, task analysis, and usability testing. Students have opportunities to experience actual usability testing in a specialized room equipped with state-of-the-art facilities for identifying interface problems.

#### ID308 Interaction Design

The objectives of this course are to understand the underlying philosophy and technique of interaction design for the design of hardware and software of computer enhanced interactive systems, and to explore the theories and the essential techniques for interaction design through practical design projects. Students learn prototyping techniques for designing interactive digital products. This course also serves as an introductory course of tangible media and interaction.

#### ID309 CAD & 3D Modeling

This course is concerned with the theories and practice of computer aided industrial design. Students learn the techniques of drafting and modeling of 3D product forms. They use 2D and 3D software tools for creative design works. The contents involve design modeling methods, product design simulation, database construction for product design, solid modeling techniques and rapid prototyping.

#### ID310 Information Design

This course is designed to study the way of organizing visual information and evaluating its usability. Emphasis is given to the capability of building information architectures and developing creative information design.

#### ID312 Design Human Factors

This course introduces general knowledge of human factors in man-machine system, including such topics as anthropometry, biomechanics, human performance, human information processing, and human sensory systems. Students will acquire methodological skills to apply the human factors to new product development by analysing real design cases.

#### ID401 Theory of New Product Development

This course will help students to learn various systematic methods for new product development process that cover product planning, concept development, industrial design, and design for manufacturing. Students will also acquire

the skill to apply the methodologies to design professional practice.

#### ID402 Design Professional Practice

This course introduces professional design practices in the modern business system. Basic goals include: Understanding basic elements of the design practice and their interactions in the real world; Learning verbal and visual presentations: resume, portfolio, job application, interviewing, relations with various people including clients and others; Discussing the ethical, legal, administrative, and financial responsibilities in the design practice.

#### ID403 Product Design System

This course is designed for senior students to investigate the integrated concept of design products and its system. Emphasis is given to applying innovative and systematic approaches to complex design problems. (Pre-requisite Course: ID304)

#### ID404 Edutainment Design

This course is designed to create digital media design with diverse techniques from game, simulation, virtual reality, and real-time interactive graphics. Emphasis is given to the development of education or playing contents to be applied into digital contents industry.

#### ID405 Multimedia Design II

This course is designed to study the total process of multimedia design creation from concept development, storytelling, and technology analysis. Emphasis is given to developing product prototyping or virtual prototyping with diverse three-dimensional image creating technology. The projects are conducted in a team-based, and multidisciplinary collaboration are emphasized.

#### ID407 Product-Environment System Design

This course deals with relationships between products and the man-made environment. Products are considered as a important factor in forming the man-made environment. Students will study relationships and functions occurring in product and environment systems to establish a new design criterion and create design opportunities.

#### ID408 Design Critique

By giving critiques on existing products in terms of useability, esthetics, material, texture, storage, life style, meaning of consumption and possession, technology, production, sales and marketing, the students will foster the ability to identify what is good design and its conditions, and to ultimately contribute to enhancing their own design abilities.

#### ID409 Integrated Design I

This course is studio class that integrates the design research and practice in the student's area of interest. This course provides students with the tools to develop their senior thesis project within a professional framework. Some important concepts and skills to be integrated into the curriculum include: working with a design process, ideation, research, concept development, design documentation, current design trends, scheduling and planning, and skill reinforcement.

#### ID411 Design Workshop

This course is designed to introduce the state-of-the-art of design theories and practices, and to integrate them in an intensive format of design learning. The experts in design academia of industries are invited to cover the subject matters, and lead the workshop.

#### ID412 Interactive Space

The development of digital technologies makes our living space to be digitalized, intelligent and interactive. In this course, products and systems in spaces are considered as design targets. Students analyze the cases of interactive spaces to provide new valuable user experience. Theoretical framework is studied to design new interactive space. Students also conduct new interactive space design projects and the evaluation.

#### ID413 Design Communication

The course aims to allow students to learn how to make systematic communication of designer's concept, intention, and result by teaching various visual communication theories and skills. The course comprises of theoretical lecture of fundamental theory of communication in semiotics aspects, various guidelines and principles of visual

communication, and practical application of theories for designer's CV, portfolio, design proposal with diverse media.

#### ID414 Integrated Design II

This course provides an opportunity to experience an advanced capstone project for the students majoring in industrial design. Students are expected to learn how to manage a new product development process efficiently based on the knowledge and skills they have acquired and to shape their innovative ideas into quality design models that can be commercialized at the moment or in the near future. Through the course, students will be given advanced knowledge related to physical computing, prototyping, manufacturing processes, and design material and chances to apply it to the capstone project.

#### ID490 Undergraduate Thesis Project

This course is the final major project. Students undertake a design project for a year from user study, concept development, form development, technology review, prototyping development and presentation. Final results are presented in the graduation exhibition.

#### ID495 Individual Study

Students register for this course at the undergraduate level when they will engage in an independent research project.

#### ID496 Design Seminar

This course consists of a series of invited speakers who introduce new trends in design and research.

### □ Master and Doctoral Program

#### ID501 Design Issues

This study is designed to construct a holistic view of design theories and issues discussed in design academia. Students are asked to build a perspective of understanding current stream of design issues.

#### ID502 Research Methodology

This is an advanced lecture course to study various research methods which form the fundamentals of design research. Students are expected to learn systematic understanding of research methods and research process, which will lead them to conduct students' master or doctoral research.

#### ID503 Design Project I

In this course, students study the theories and undertake practical projects of new product design development that is accelerated by the new scientific and technological revolution and the emergence of new lifestyles. They explore concept development of new products, investigation of critical factors of new products, the progress of systematic design process, decision making, user centered design creation methods through chosen projects.

#### ID504 Design Project II

This listing is a sequel to studio course, Design Project I, and helps develop design with the emphasis on corporate strategy. Students learn methods related with design strategy and project management through practical projects.

#### ID505 Usability Analysis

This is a lecture / studio course to study general theories on usability regarding learnability, efficiency, memorability, satisfaction for information appliances or media. Students are to learn diverse methods related with usability such as heuristic evaluation, task analysis, usability testing so that they can have the capability to lead user-centered design.

#### ID506 Media Interaction Design

This course is designed to study the interactivity of multi-modalities (visual, sound, olfactory, and tactile), and to experience creative interaction design. Emphasis is given to experience tangible interface design with the state-of-the-art of interactive technology.

#### ID508 User Centered Design Methodology

The course aims at teaching user-centered design methods for identifying users' tacit needs so that innovative design can be created. User-centered methods from stage of planning to idea-generation and evaluation will be covered including user-observation, scenario-based design, self-camera, user-diary, usability testing, user-participatory design etc. Students are expected to build up the capability to plan creative design concepts and conduct user-studies.

#### ID509 Design Project for Industry

Students study research project planning, conducting methods, processes, and problem solving methods for practical design projects conducted jointly with industry. Design knowledge frameworks and practical experiences of students are refined by working with specialist in industry as the industry collaboration method. The objectives are also accomplished by co-workshops and seminars with industry. Project topics are decided with industry in the beginning of the course.

#### ID601 Design Project III

This course is concerned with the design of multimedia oriented product design. The contents involve the understanding unique features of multimedia oriented products, directing, design and marketing of new design. Through the collaboration with experts from related fields and progressive resolution of the design problems, students carry out new design projects in a team basis from a multidisciplinary approach.

#### ID602 Design Project IV

This course is designed to develop multimedia design product through analyzing product analysis, planning and design, and market research. The experts in multimedia industries are included as team-teaching members. Students conduct a new design project based on multidisciplinary team.

#### ID603 Theory of Media Design

This course is designed to investigate diverse issues related to digital media design from social and cultural perspectives. Emphasis is placed on the design process and the development of creative content.

#### ID605 Design Marketing

This is a lecture course to study consumer and market related with new product design. Students are to learn diverse marketing survey methods with statistical analysis such as product positioning, market segmentation, life style analysis, and concept evaluation.

#### ID606 Theory of Emotional Design

Nowadays, value criteria and evaluation criteria of customers' behavior is more focused on emotion than reason. This course deals with analysis of emotional factors of human and transformation of them into design languages to develop researchers' capabilities of conducting emotional design process. Students will study emotional engineering, cognitive science, psychology, and other relevant fields with a new solving methodology of design problems.

#### ID607 Design Management

This course is an introduction to theories and practical knowledge on design management. This course aims to understand the fundamentals of design management: Shifting milieu of design business; nature of design management and design manager; design management process; and others. This course also focuses on resources for composing design organizations; problem solving methods and decision making issues required for effective management of design process; the practical knowledge of running and managing the corporate design group and / or design consulting firm.

#### ID701 Design Research Issues

This course aims to introduce and analyze recent trends of theories and topics in design research. Students learn how to approach research topics systematically and how to find and conduct a new research project that contributes to the body of knowledge in design research. This course provides a theoretical background and a framework of methodologies for Ph.D. research in design.

#### ID702 Design Studio II

This course is a doctoral design project course: each student researcher studies profound research in interest fields of their own. To understand the basic concept of design practice and study planning and practice of design,

industrial-educational projects or interdisciplinary cooperation projects will be conducted for nurturing design capabilities.

#### ID705 Theory of Public Design

Recently, modern cities are composed of complex human communities. This course deals with observations of conflicts occurring in an urban environment and studies of contradictory concepts of the legibility and the ambiguity of urban environment to find out issues of public design.

#### ID706 Theory of Interface Design

This is an advanced lecture course to study general theories for interface design including human cognitive model, interface design guideline, research methods. Students are to learn interface as a system consisted of human, product, and interface. This interface is viewed in diverse perspectives including intelligent, emotional, social and cultural interface. Final deliverable for student is publication of a paper in a related journal or conference.

#### ID708 Design Strategy

The this course aim to teach relevant factors, conditions and their interactions that play crucial roles for successful practices on design management in various organizations such as government, public organizations, corporations, and others.

#### ID711 Advanced Topics on Human Centered Design

The course aims to teach students the nature and philosophy of human-centered design, methods, and process and to allow them to discuss and conduct research for advanced issues of human-centered design in depth. The course comprise of major issues of human-centered design, methodologies, process and writing short paper on selected topics in human-centered design.

#### ID712 Advanced Topics on New Technology Convergence Design

This course deals with advanced topics on new technologies to be applied in design projects and the design process. Students review recent developments and examples of technology application in design. The technology fields include electronic engineering, mechanical engineering, new materials, software engineering, production engineering and so on. Students identify research issues and analyse cases for new technology fusion in design. Issues and cases are also reviewed for the application of new technologies in developing new design methods and tools to aid designers.

#### ID713 Advanced Topics on Business Innovation Design

Teaching the knowledge basis and know-hows of the strategic design for accomplishing the successful business innovation. Focus on the how to make valuable innovation through design thinking as well as how to design a business model based on the innovation.

#### ID960 MS Thesis

This course involves master's level research project based on a thesis research proposal confirmed by the supervisor. The research contents should contribute to the design practice or the body of knowledge in the field of design. It also should be original and address the practical design or research issues in the design discipline.

#### ID966 MS Seminar

This course consists of invited seminars to introduce and discuss new design issues such as the role of design, new design methods, strategic value of design.

#### ID980 Ph.D. Thesis

This course is a Ph.D. level research project based on a thesis research proposal confirmed by the student's supervisor. The research contents should make significant contribution to the body of knowledge in the field of design. It also should be original and address an important design or research problems in the design or related disciplines.

#### ID986 Ph.D. Seminar

This course consists of invited seminars to introduce and discuss new design issues such as the role of design, new design methods, strategic value of