

*Convergence of
culture, technology, and emotion*

KIID

Industrial and
Information
Design

Academic
Program

School of
Art and Design
in Korea University

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The **KIID Academic Program Guidebook** is prepared to encourage prospective and undergraduate students, and to communicate with educational faculties, and other interested audience. KIID Academic Program Guidebook for students is compiled in February, 2019.

Any Questions? Call our Visit Coordinator at 82.2.3290.2680 for more information or email us at art001@korea.ac.kr

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Kim Sooyoen, ADD, Drone share platform, Graduation Thesis, 2018

ADD is a system that shares and manages drones in preparation for 2020+ drone era due to recent growth in drone markets and active technical research. Currently, drone use has problems such as the frequency of underused of individual drones, complicated procedures for using drones, and cost savings. By solving this problem through a shared-economic-based share platform through app, the company aims to pursue a shift to one-person-one drone living sphere, which is more efficient and easier to use than before.

Introduction of Curriculum in KIID

Above the history of 100 years, Korea University(KU) is up and coming as a global university entering the new millenium. Under KU's new system of advanced education aiming for the globalization of university structure, School of Art&Design has been reorganized and is preparing new changes to produce global leaders for cultural creators.

Formerly the Fine Arts Department which carried 4 majors of oriental-paining, western-painting, carving-and-modeling and design when it was separated from the college of education in 2000, Formative Arts Department has been reorganized into two majors (formative-arts major, industrial-information-design major) in 2007. Now in 2011, reformed School of Art&Design offers you a new curriculum and new educational environment to provide a promising basis for global art and design college.

Industrial & Information Design major seeks to provide advanced educational programs which encompass traditions and cutting edges, and cover various areas of industrial design including interiors, graphics, interface/interaction, entertainment etc. Formative-arts major promotes higher quality education by developing variety of subjects that reflect fluxing cultural environment while bringing in specialties from the western painting, carving-and-modeling, oriental-painting majors. Our school is also extending its connected majors such as fashion design, merchandising, environmental design, industrial design engineering, which will all meet the society needs, students' expectations, and future careers.

Today, as an effort to be the global Art&Design School of Korea University, not only are we exchanging with prominent art school in Korea, but also we are preparing and executing a bigger leap through exchanging with prominent colleges around the world and we are providing the best global campus that embodies the 21st century education mechanism.



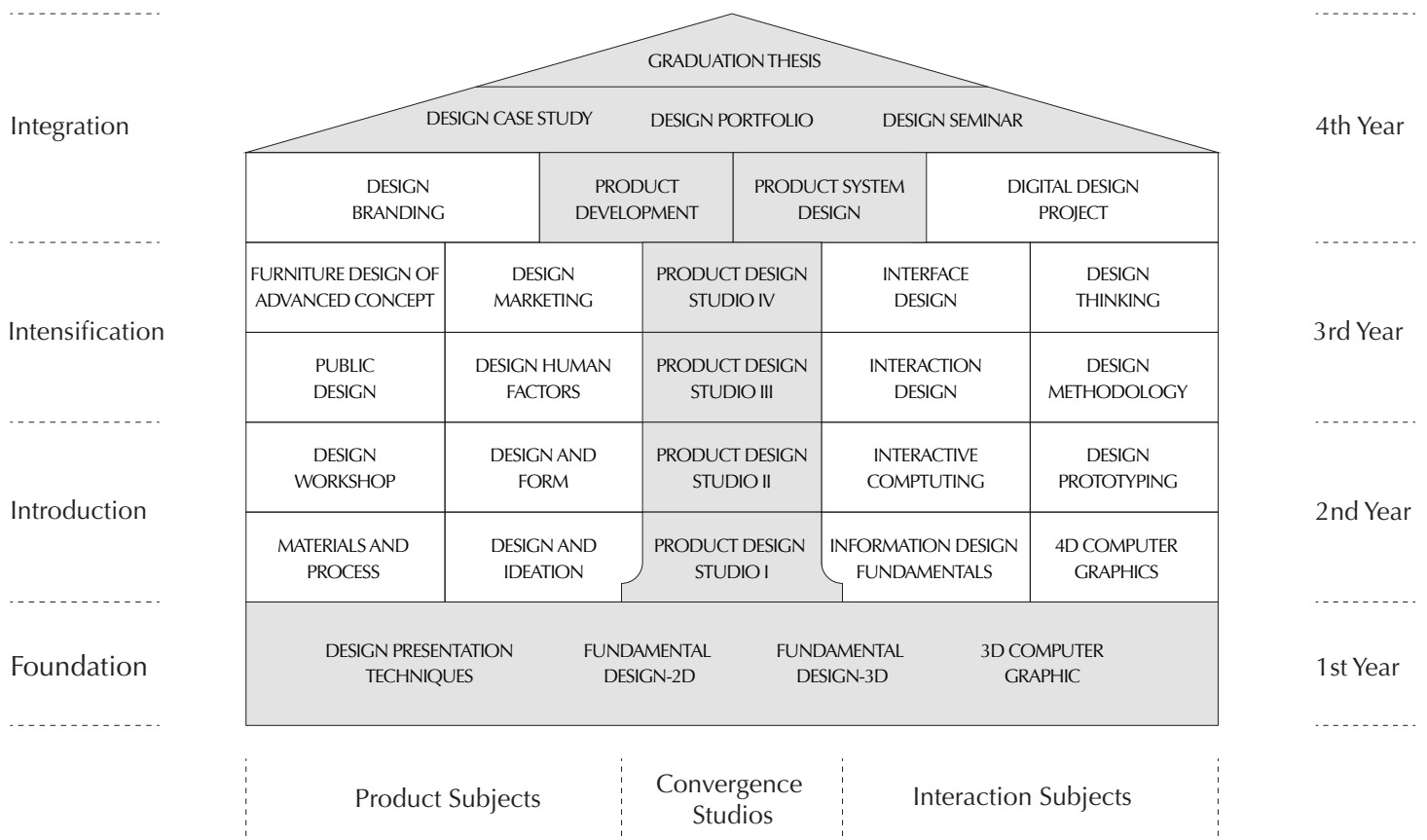
Han Sol, Park Jin Soo, Shin Hye Jin, DYNO, Enhanced mobile office system, Graduation Show, 2018

The future of autonomous driving we have dreamed of is approaching. In the 2020+ urban environment, the amount of time spent on commute will be significantly reduced. We all want to manage or alter commuting hours strategically. If we are free from driving and hassles of public transportation, how can we transform this time to create? You may want to use this time as a relaxing time or as a preheating time before the works. We have found that there is a behavioral difference in detail of the work type that can be done at home and the company. Some probable solution following the next page was what we have discovered.



Guidance for KIID Curriculum

The KIID curriculum is to advance the convergence of competencies of students centered on the convergence studio courses from the second to fourth grade, based on the foundation courses of the first grade. The core studio courses focus on converging with industrial design courses and interactive design courses on one side. By taking these courses selectively, students can build their own competencies as if it construc a house. A convergent understanding of the capabilities of industrial design and interaction design is a key goal of this curriculum. Students can complete the roof of the course by completing the graduation show.



Undergraduate Program

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Design Presentation Techniques

ARDE212

Course Outline

This course will be one of the foundation courses of industrial design development. That will introduce the fundamental industrial-design processes and developments to the students; covering aspects of ideation sketch, revised sketch, digital sketch (Photoshop sketch), 3D sketch and presentation techniques of industrial design development processes. An instructor will use the professional industrial design work samples for the teaching materials in order to let students learn more realistic design processes and techniques.

- To learn about the industrial design process in order to generate quality design results within the given methods.
- To learn the design methods and skill sets.
- To learn about the organization of design works.
- To learn how to be more creative during the ideation phase.

Course Objective

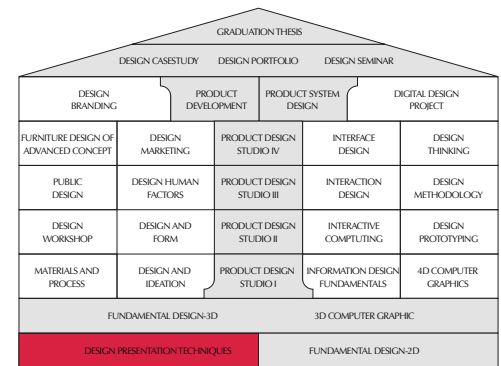
The design process requires various types of presentation techniques to the product designers. For instance, Thumbnail sketch, high-fidelity renderings, exploded view, CMF documents, Artwork document, etc. Designers expand their creativity with these expression techniques.

Course goals

- To provide students with fundamental industrial design processes.
- To provide students with designing skills and techniques.
- To provide students with the practical experience of industrial design ideation phase.
- To provide students with the ability to use the various design skills and techniques.
- To encourage individual growth to its highest potential.

Project quality is a crucial evaluation material. Good design will bring a good grade. However, student's class participation and attitude are also very important evaluation guide. Four absences will because of F grade (exception: excused absence) and also delayed assignment submissions affect a lower grade.

- Attendance, observed performance, attitude, etc.: 20%
- Foundation of perspective sketch 1, 2, Anatomical sketch, and Thumbnail sketch: 20%
- Digital sketch & rendering: 20%
- Hybrid rendering: 20%
- Quick design project and final presentation board: 20%



Learning Guideline

The students will learn knowledge and techniques through the given assignments and practice at the classes and from home. The class is primarily intended for the freshman students of School of Art & Design, and approximately 10% of the course would be exchange students.

Learning Material

Design Presentation Techniques is a foundation course of industrial design development. The focus of this course is to learn basic skills and methods of industrial design & development in various realistic contexts.



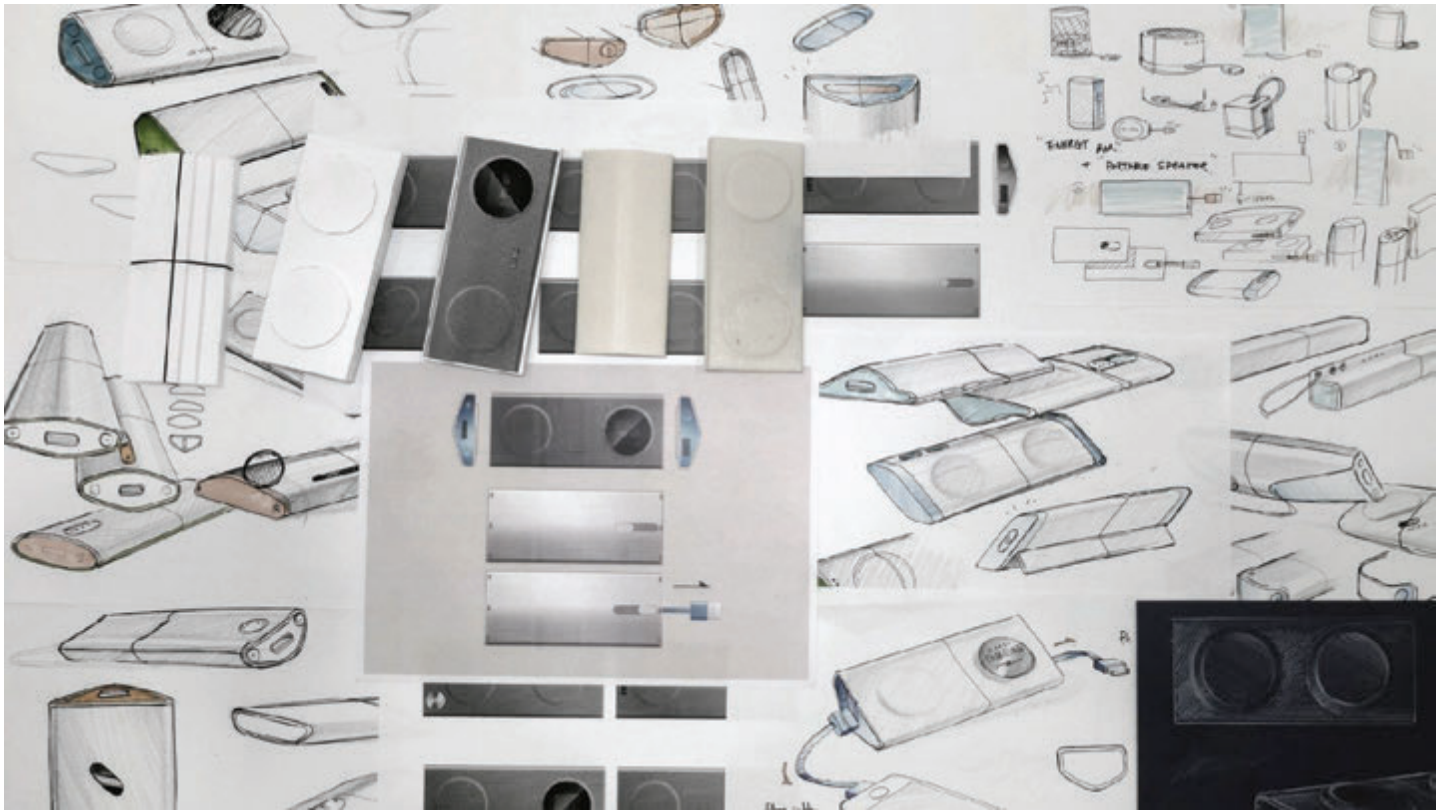
Studying Contents per Week

wk	Topic	Assignments
1	Course Introduction	
2	Foundation of perspective sketch 1	Lecture & Practice
3	Foundation of perspective sketch 2	Lecture & Practice
4	Anatomical sketch, exploded view	Lecture & Practice
5	Thumbnail sketch and ideation sketch 1	Lecture & Practice
6	2D digital sketch: Photoshop 1	Lecture & Practice
7	2D digital sketch: Photoshop 2	Lecture & Practice
8	Mid-term break	
9	2D digital sketch: Illustrator	Lecture & Practice
10	2D/3D hybrid rendering techniques	Lecture & Practice
11	3D rendering techniques	Lecture & Practice
12	Presentation techniques: Create CMF / Artwork document	Lecture & Practice
13	Quick design project 1	Lecture & Practice
14	Quick design project 2	
15	Final presentation	Presentation
16	DOT exhibition	

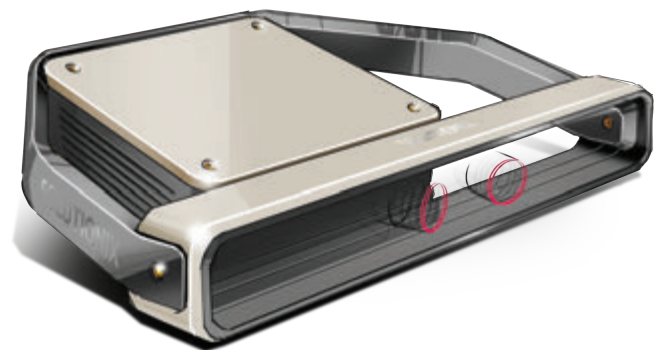
Assignments

Hand drawing/Prototyping

Sketching allows product designers to generate ideas quickly and broadly, without committing resources to an initial thought.



Idea sketches and soft models (hand drawing/prototyping)



“Drawing is not about representation but about thinking. Trying to understand what you’re looking at ... The brain sends a signal to the hand and the hand sends one back and there is an endless conversation between them.” – **Milton Glaser**



2D digital drawing Thumbnail sketches

3D Computer Graphics

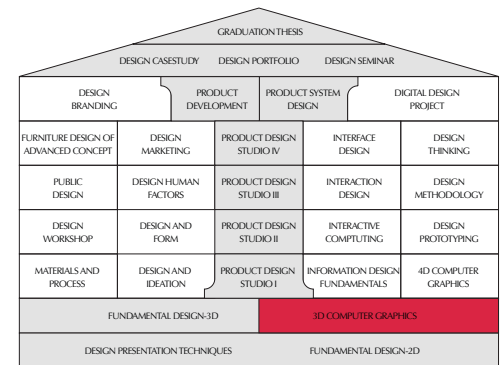
ARDE217

Course Outline

Select common themes to institutionalize sketching and final design results, and produce prototypes in soft mock-up fashion. This course aims to foster a 3-dimensional work capability as an industrial designer by understanding and learning the design basis and development process by educating 3-dimensional modeling and rendering based on the design basis.

Course Objective

By acquiring 3D modeling and rendering based on basic construction, the goal is to fully master the computer basic design process, perform other classes projects, and perform 3D tasks that are slow to become an industrial designer.



Learning Guideline

Basic computer operation capabilities and basic graphic program operation capabilities

Learning Material

Using 'Product Design Using Raino 3D and Flamingo' proceed to class. The content of the textbook and how to perform 3D are explained by the professor as the class progresses.

Studying Contents per Week

wk	Contents
1	Orientation based on class progress
2	In product design, how to make the right use of digital design understand
3	3D digital in product design start and plan modeling
4	Create 3D basic geometry models, application method understanding the creation of one side
5	Create 3D basic geometry models, application method 2
6	Create 3D basic geometry models, application method 3
7	Create 3D basic geometry models, application method 4
8	Interim check of 3D digital design midterm exam
9	Create 3D basic product models, application method 5
10	Create 3D basic product models, application method 6
11	Create 3D basic product models, application method 7
12	Create 3D basic product models, application method 8
13	Create 3D basic product models, application method 9
14	Focusing on major products 3D modeling practice 1
15	Focusing on major products 3D modeling practice 2
16	Final 3D modeling

Fundamental Design-2D

ARDE270

Course Outline

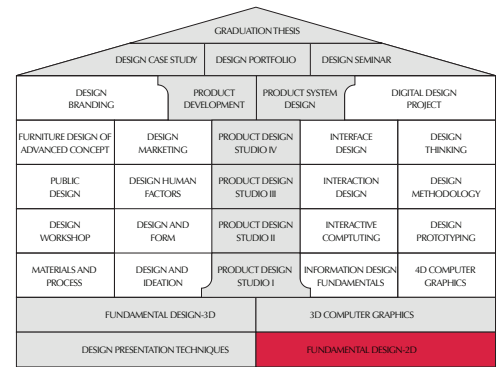
'Fundamental Design - 2D' is to develop an output which is generated from 2d dimensional thinking''. That is, the goal of this lecture is to obtain the competencies that freely make it images in our mind. And Students can understand about the fundamental phenomenon of thinking in imagery in this process. Also, students learn the important themes related to a basic 2d design.

Course Objective

'Fundamental Design - 2D' is to enhance the basic abilities about 2 dimensional thinking process as the most basic stage of the program at Art and Design Department. Students fundamentally understand and practice about a seeing in mind, thinking in 2d image and reading in using association in this course. Also, we practically learn the concrete process of 2d design - font, editorial design, typography, icon, identity, image with the theories.

Reference

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- Hyland, A., & Bateman, S. (2014). Symbol: The Reference Guide to Abstract and Figurative Trademarks. Laurence King Publishing.
- 헤라르트 뵐어르 (2018). 최문경 옮김. 당신이 읽는 동안, 위크롬프레스
- Meggs, P. B., & Purvis, A. W. (2016). Meggs' history of graphic design. John Wiley & Sons. 필립 B. 맥스, <그래픽디자인의 역사>, 디자인하우스
- 에릭 스피커만, <타이포그래피 에세이>, 안그래픽스
- 김보섭. (2017). [이미지로 생각한다는 것]. 베란다, Bosub Kim. Thinking in Imagery. Veranda.



Course Guideline

Course progress consists the preparation before class, things to do in class, assignment and advising after class. Class is not conducted only in class time. Professor help students' development fully.

Learning Material

In Fundamental Design-2D, new shapes can be thought from the phenomenon of morphing where the two shapes are converged. Students learn visual thinking through variations and applications of basic shapes and elements.

Studying Contents per Week

wk	Topics	Contents	Assignments
1	Course Introduction	Goal, Overview lecture, Grading and Evaluation Assignment Explanation, Design Creativity	
2	Basic Symbols and Thinking in Image	Circles, Squares, Triangles	
3	The Way of Seeing	Polygons, Cubes, 3D Forms	Practice of Figures, Making Icon and Logo
4	Icon and Logo	Various Figures	
5	Thinking in Abstraction	Observation of Natures	
6	The Way of Seeing	Abstraction of Faces, Eyes, and Figures	Abstraction of Own-self, Making Namecard
7	Identity and Brand	Various Representational Figures	
8	Mid-term Break		
9	History of Typography	History and Context of Typography	
10	The Way of Reading	Useful Typography	Practice of Typography(Poster)
11	Type - Alphabet	History of Hangeul Typography	
12	Type - Hangeul	Practice Hangeul Typography	
13	Basic Editorial Design	Grid, Alignment, Layout	Editorial Design(Small Book)
14	The Way of Reading	Practice of Images	
15	Final Critics and Feedback	Print of Own Book	
16	Epilogue		

Fundamental Design-3D

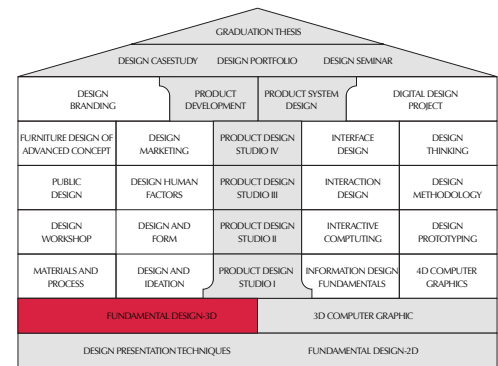
ARDE275

3-D Form Study & Analysis

Philosophy of form in nature will be discussed, highlighting the correlation between natural form and performance. Rapidly duplicating, intricate, curvilinear, natural forms, from simple flat materials, will be an effective exercise to make designers more adept and productive for this very important phase of design development.

*Detailed study of the structural, perceptual, and spatial properties of well-ordered three-dimensional forms, their composition, and the process of designing them.

*Use of the creative metaphor in interpreting three-dimensional form is explored together with methods for developing spatial form and order.



3-D Visual Communication

This course will also offer the chance to explore various modeling materials and construction processes which allow designers to see design relationships, and solve special relationships very quickly, as opposed to models that are useful for resolving final design form or exact details.

Learning Guideline

This course is a basic course for design majors. You have to take an elective course or product design studio1 (required). This course is held in conjunction with [3D Computer Graphics Class].

Project A : Making Acrylic Box

- Training for Sanding & Buffing -Special Project : Acrylic Box Fabrication - Overall Size : 150X150X150 mm - Material: Clear Acrylic
- * The process of assembling pre-cut acrylic box sets learning the sanding and the polishing techniques.

Project B : 5 Senses in an Acrylic Box - CMF Box

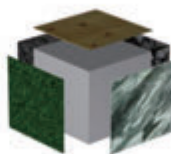
- Study on CMF : Color, Material, & Finish
- 5 different surface expression in a clear acrylic box -Inner Box : 120X120X120 mm (Foam Board Box), Overall Size : 150x150x150mm (Clear Acrylic box) Material: Clear acrylic box, Foam board box, Glue



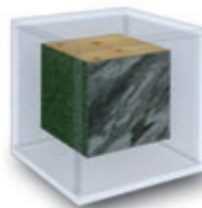
Acrylic Box



Form Core Box Inner Box



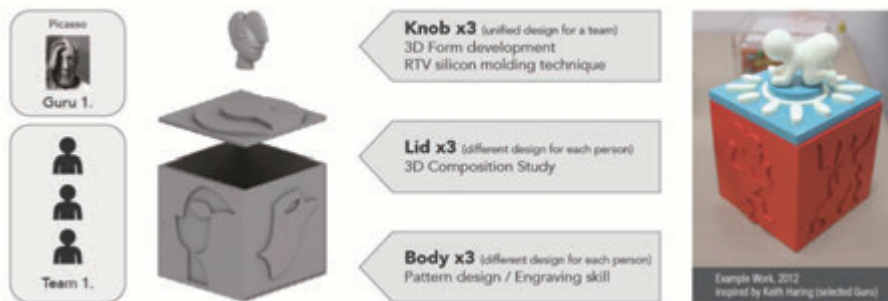
Applying CMF 5 Senses on each surface



CMF Box

Project C: Think Box

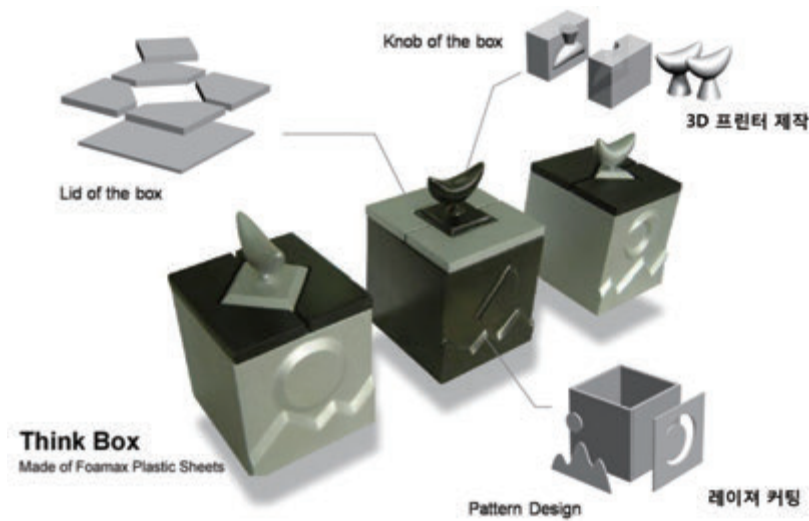
- **Main Body:** Training for plastic working skill, Size : Outer=120x120x120(mm) / Inner=110x110x110(mm) - Material : Foamax (Thickness: 8mm, 3mm)
- **Lid:** Designing and Fabricating a Lid for the Project 2, 4 / Size : Outer=120X120X25(mm) / Material : Clear Acrylic Board, Foamax, Ciba tool, etc.
- **Knob:** Designing and Duplicating Knobs for a Lid of the Box -Team Work / Overall Size : TBD, Material : Silicon(RTV), Urethane Casting Resin



Brief about Assignment

It is a task that focuses on the training of 3D-type expressive techniques rather than three-dimensional formative exercises for design. The box, which is about 1,200 x 1200 x 1200 mm, is called the Think Box, which means 'breaks the frame of an accident,' is made of mostly soft formax plastic. In groups of three, one theme is selected and divided into three parts, Main Body, Lid and Knob, to design and produce their respective boxes within given specifications. In case of Knob, however, 3 people use silicon mold technology to clone it in the same form after unified design. Design and manufacture one box, process plastic by hand without using a complicated machine, finish with paint and increase completeness. In the future, the techniques can be used to model product design.

Assignment



Think Box & CMF Box Example



4D Computer Graphics

ARDE218

Course Outline

The aim of 4D graphic design course is aspiring students to learn the digital contents design and motion prototyping skills for expressing their interactive and multi-dimensional attributes of design concepts. Students who are applying this course are highly required for pre-acquisition of their 2D graphic tools techniques and 3D graphic tools techniques.

Course Objective

The main objectives of this course are as follows;

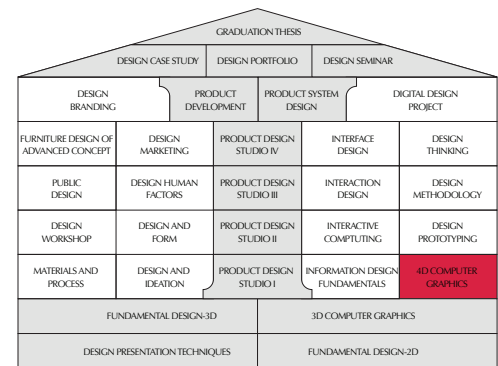
- To learn how to use Adobe Flash and After Effect.
- To learn the narrative story telling techniques of design concept and scenario.
- To understand the static / dynamic attributes of design and optimal expression for it.
- To express the sequential / interactive information flow and the efficient design of UX .

Textbook, Material

- Zwick, C., Designing for Small Screens, Ava Publishing, 2006
- 맛있는 디자인 애프터이펙트 CS6 & CC 교재 (annually updated)

Reference

- Nielsen, J., Designing Web Usability, Peachpit Press, 1999
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- Caroll, J.M., Usability Engineering: Scenario-Based Design, John Wiley & Sons, 1995,
- Brown, T., Change by Design, HarperBusiness, 2009
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- Lindell, W., etc. Universal Principles of Design, Rockport Publishers, 2003
- Moggridge, B., Designing Interactions, The MIT Press, 2007
- Buxton, B., Sketching User Experiences, Morgan Kaufmann, 2007



Learning Guideline

Visit Youtube Channel :
Korea University UX – 4D Graphics

Evaluation

- Mid Term Small Project: 20% / Assignment: 20%, (Seminar and Practice) / Term Project: 50% / Attitude & Attendance: 10%

Term Project

1. Interactive Application Design
 - 1.1 Create an application concept demonstration.
 - 1.2 Generate screen design/ information architecture / storyboard for a application.
 - 1.3 Make design source files (Bitmap, 3D, Vector graphics, Movie clips)
 - 1.4 Compose Interactive Quick Prototyping with prepared sources.
2. Information Design
 - 2.1 Basic Documents for UX design (Design Brief, UI, GUI concept guideline that works in the real filed.
 - 2.2 Management of design documents : Communication, Versioning, History, Designer and Transition.
3. Design Communication
 - 3.1 Design concept report, Flash Drive, Panel (A0), Presentation
 - 3.2 Demonstration should be 03:00 ~ 03:30 min. length.

Mid Term Small Project

- Tablet or Smartphone based interactive application.

Seminar

1. Two persons (team) will be responsible for proceeding book seminar of 15 min each on every class.
2. Students will divide the book sections on the second class.

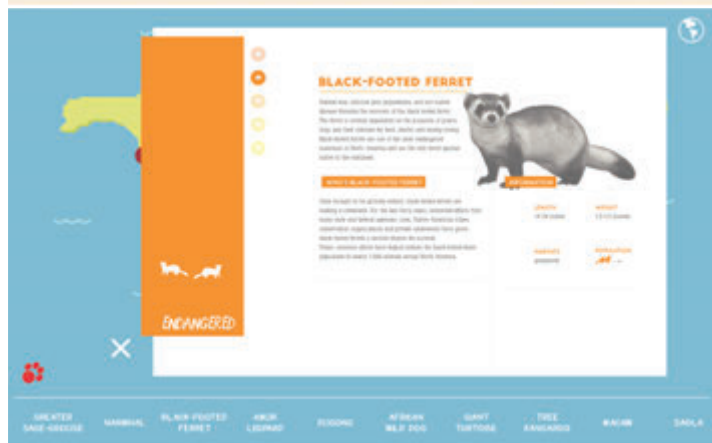
Design Practice

- Design drafting practice per each class.

Studying Contents per Week

wk	Studying Contents	Activity	Textbook
1	Orientation		PPT Slides
2	Design Planning and Concepting	Lecture / Discussion	PPT Slides
3	Interface Design Basic and Motion graphics	Lecture	PPT Slides
4	Small Project Design Concept & Flowchart	Lecture	PPT Slides
5	Small Project Storyboard & Motion Prototyping	Lecture & Practice	PPT Slides
6	Small Project Interface Design 1	Lecture & Practice	PPT Slides, Textbook
7	Small Project Interface Design 2	Lecture & Practice	PPT Slides, Textbook
8	Project Presentation	Presentation	PPT Slides
9	2D Graphics and Motion Design - Adobe After Effect I	Lecture & Practice	PPT Slides, Textbook
10	2D Graphics and Motion Design - Adobe After Effect II	Lecture & Practice	PPT Slides, Textbook
11	2D Graphics and Motion Design - Adobe After Effect III	Lecture & Practice	PPT Slides, Textbook
12	2D Graphics and Motion Design - Adobe After Effect IV	Lecture & Practice	PPT Slides, Textbook
13	Term Project	Concept Check / Discussion	
14	Term Project	Concept Check / Discussion	
15	Term Project	Concept Check / Discussion	
16	Final Presentation	Term Project Presentation	

Assignments



Design Prototyping

ARDE220

Course Outline

Select common themes to institutionalize sketching and final design results, and produce prototypes in soft mock-up fashion.

Course Objective

The purpose of the study is to institutionalize the finished design and to produce the professional type.

Assignments

Task 1: Sketchbook / drafting file (ai format) / laser cutting acrylic skeleton

Task 2: Sketchbook / Drawing File (ai Formats) / Laser Curing Acrylic Skeleton / Soft Mock-up

GRADUATION THESIS				
DESIGN CASE STUDY		DESIGN PORTFOLIO		DESIGN SEMINAR
DESIGN BRANDING	PRODUCT DEVELOPMENT	PRODUCT SYSTEM DESIGN	DIGITAL DESIGN PROJECT	
FURNITURE DESIGN OF ADVANCED CONCEPT	DESIGN MARKETING	PRODUCT DESIGN STUDIO IV	INTERFACE DESIGN	DESIGN THINKING
PUBLIC DESIGN	DESIGN HUMAN FACTORS	PRODUCT DESIGN STUDIO III	INTERACTION DESIGN	DESIGN METHODOLOGY
DESIGN WORKSHOP	DESIGN AND FORM	PRODUCT DESIGN STUDIO II	INTERACTIVE COMPUTING	DESIGN PROTOTYPING
MATERIALS AND PROCESS	DESIGN AND IDEATION	PRODUCT DESIGN STUDIO I	INFORMATION DESIGN FUNDAMENTALS	4D COMPUTER GRAPHICS
FUNDAMENTAL DESIGN-3D			3D COMPUTER GRAPHICS	
DESIGN PRESENTATION TECHNIQUES			FUNDAMENTAL DESIGN-2D	

Learning Guideline

This class is a basic design sketch and soft mock-up manufacturing course that produces a design developed in conjunction with a product design studio using institutionalization and soft mock-up, only for illustration-programmable students for the system.

Learning Material

Design handwriting, A4 paper, notebook, acrylic (for laser cutting), soft woodworking materials, etc.

Studying Contents per Week

wk	Contents
1	1. Orientation - Lecture outline / Lecture method / Task description / Submission method 2. Assignment 1 set common topics
2	1. Sketch Review - Identification 2. Form study lecture
3	1. Sketch review - design setting 2. Product detailing / Essentials lecture
4	1. Draft Demo 2. Necessity of product draft lecture
5	1. Draft Review 2. Illustrator Demo for draft
6	1. Draft Review 2. Individual Review
7	1. Acrylic Stretch Reviews
8	Assignment 1 Final Presentation / Review midterm exam
9	1. Product design studio design review 2. Soft mock-up necessity and prototyping lecture
10	1. Drafting review 2. Individual work
11	1. Drafting review 2. Individual work
12	1. Acrylic skeleton review 2. Individual work
13	1. Soft Mockup 1st review 2. Individual work
14	1. Soft Mockup 2nd Review 2. Individual work
15	Assignment 2 final presentation / Review
16	Final presentation / review

Product Design Studio I

ARDE223

Course Description

Product Design Studio

Provides an introduction to practice of industrial design, focusing on the process itself. Students learn how to identify a problem and list criteria for an effective solution; to present market summaries detailing target consumers of a product; to produce complete designs that follow the creative problem-solving process; and to conduct a clear presentation of the design and final appearance model.

Design Process

Explores design methods and creative strategies for product design. Work proceeds through problem identification and preparation, analysis, ideation (with focus on modes of visual thinking, effective expression), solution development, verification, and effective communication. Human factors, functionality, appearance, and production feasibility are considered.

Visual Communication

The project ideas are sketched on paper and translated into sketch models and finished models in scale. Fabrication materials and process are discussed and reflected in three-dimensional models. Sketch techniques of space are studied.

Verbal Communication

This class is conducted in English. All students who take the course have to speak English during the class per the professor's request. It is necessary to improve students' English speaking skills as English is deemed the global language.

GRADUATION THESIS				
DESIGN CASE STUDY		DESIGN PORTFOLIO		DESIGN SEMINAR
DESIGN BRANDING	PRODUCT DEVELOPMENT	PRODUCT SYSTEM DESIGN	DIGITAL DESIGN PROJECT	
FURNITURE DESIGN OF ADVANCED CONCEPT	DESIGN MARKETING	PRODUCT DESIGN STUDIO IV	INTERFACE DESIGN	DESIGN THINKING
PUBLIC DESIGN	DESIGN HUMAN FACTORS	PRODUCT DESIGN STUDIO III	INTERACTION DESIGN	DESIGN METHODOLOGY
DESIGN WORKSHOP	DESIGN AND FORM	PRODUCT DESIGN STUDIO II	INTERACTIVE COMPUTING	DESIGN PROTOTYPING
MATERIALS AND PROCESS	DESIGN AND IDEATION	PRODUCT DESIGN STUDIO I	INFORMATION DESIGN FUNDAMENTALS	4D COMPUTER GRAPHICS
FUNDAMENTAL DESIGN-3D			3D COMPUTER GRAPHICS	
DESIGN PRESENTATION TECHNIQUES			FUNDAMENTAL DESIGN-2D	

Learning Guideline

This Course will be Strongly recommended to Only Industrial (I.D) Major Student! This Course will be Strongly recommended to Only students who have ever taken Design Element-3D or Model Making Class. The Specific Class Schedule will be announced on the first day of this class.

Course Regulation

Attendance

It is expected that each individual attends every scheduled class during the semester. Absences will impact your grade. Four absences or three straight absence are grounds for a failing grade. The only allowable exception is an excused absence.

Excused Absence

Every effort should be made to contact me prior to the class session to be missed(Mobile: 011-246-1953). I will request that the circumstances concerning an absence be explained. It is not to be assumed that an approval will be granted.

Tardiness

You are expected to be in the classroom ready to participate by the time class is scheduled to begin. Occasional tardiness (Max.15 minutes, Max.3 times over the course of the semester) will be tolerated without impacting your grade.

Assignments

Each assignment will have a clearly defined deadline. If an assignment is not completed on time, it will impact the grade received.

Class Etiquette

Never touch another person's work without permission. Do not use another person's tools without permission. Give some help when needed.
No smoking! No mobile phones! No food & drinks!

Product Design Studio II

ARDE224

Course Outline

Grounded in holistic design thinking and practical approaches, this course will provide students with a foundation in the product design. The class is primarily intended for the sophomore who is the first-year design major students and the students will learn the fundamental design process through discovering, defining, developing and delivering own product concepts under a given subject and context. The design studio will be based on a team project focusing on re-interpretating and redesigning a mid-complexity product in a creative and unique manner.

Course Objective

The goal of Product Design Studio II is to learn the fundamental principles and methods of product design & development in a realistic context.

- To learn about the industrial design process in generating quality design results within a given condition
- To understand design thinking during the problem solving process
- To learn collaborative culture & manners through a team-based design thinking
- To learn the creative design methods and practical skill sets

Course Project (Team & Individual)

As a team, students will build a new premium lifestyle brand for single household Millennials in 2020 based on their design intent and researches, and each person will need to propose and develop new home appliance product within the brand. (No Information & Telecommunication product allowed, such as TV or Laptop PC)

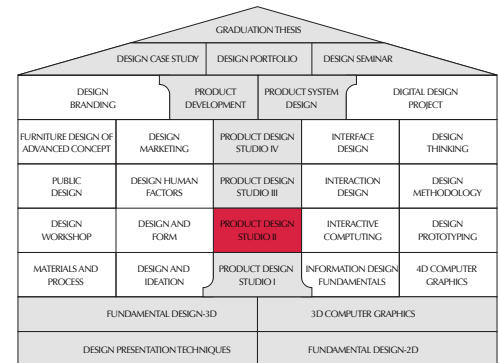
Project deliverables will be

1. Design Research & Brand Concept Generation
2. Product Design Developments (Sketches & 2D/3D rendering)
3. Presentations & DoT (PPT, Panel, Catalog)

Evaluation & Grading

While a term project itself is a major object of evaluation, in-class participation and attitude are also critical in individual grading. Final grading will be made based upon participation of class activities, research quality, and project outcomes and in order to maximize class learning process, peer evolution in each phase of presentations will be also included.

- Course activities and weekly assignments: 30% - Mid-term Project: 30%
- Final project deliverables: 30%
- Attendance & Individual works: 10%



Learning Guideline

In terms of course work and learning synergy, this course will be linked with Design & Form (ARDE 278/Prof. Kim, Bosub) which are highly recommended as complementary courses in the semester.

Studying Contents per Week

wk	Topics	Contents	Assignments
1	Course Introduction	Course Intro & Overview Term Project Introduction Product Design A to Z	Team setup Visit Department store Project Item Options
2	WHY 1 : A pproach	Intro : Product Design Development Design Thinking Process Trend Research/Theme Finding Team Activity & Coaching	Trend Research Product Item selection Individual Sketch Start
3	WHY 2 : B rand	Designing in the Context Target Market/User group Segmentation and Positioning Team Activity & Coaching	Market/User Research Digitalizing Mappings
4	WHY 3 : C oncept	Discovering New Opportunities Product Idea Exploration Brainstorming & Sketching Team Activity & Coaching	Research Update Initial Product concept
5	HOW 1 : D ifferentiation1	Visualizing Product Concept Research Completion	Design Research & Concept Report
6	HOW 2 : D ifferentiation2	Research & Concept Review Product Image & Usage, Use Peocess Concept Scenario Building	Concept Scenario 3 Concept Sketches
7	HOW 3 : F orm & F unction	Developing Product Details Design Language & Structure Team Activity & Coaching	Concept Scenarios Design Drawing
8	HOW 4 : G ood to G reat	Individual checkup Team Review & Critics	Product Definition Initial Rendering Mid-term PT Prep
9	Midterm Project Review	Team Presentation : Products Concept Q & A Sessions, Group Discussion	Sketch Book Submission (Individually / 50pages)
10	WHAT 1 : I ntity & I nnovation	Defining Value Proposition Design Guideline & Principles USP, Evaluation Criteria	2D/3D Modeling
11	WHAT 2 : L ove M ark	Product Design Development Usability, Interface, User Experience Market share to Mind share	2D/3D Modeling
12	WHAT 3 : N ature & O riginal	Product Design Development Design Motive, DNA Features, Form Factors, Usage	2D/3D Modeling
13	WHAT 4 : R efinement	Individual Review & Critics 2D/3D Modeling	2D/3D Modeling
14	WHAT 5 : S implicity	Final Review & Critics 2D/3D Modeling	Final Presentation Materials , Prototyping
15	WHAT 6 : Z ero to one (Final In-class presentation)	Final Presentation Peer Evaluation & Discussion	DOT Materials (Panel, Catalog)
16	Design on Thursday(DOT)	Final Project Review	Final Material Package Submission

Assignments

Reminiscence and Enjoyment

Our brand logo represents string and lever that are derived from toy. And toy make people recall the joyful memory of childhood. These partsod thing can show our identity.

Stimulating curiosity of users

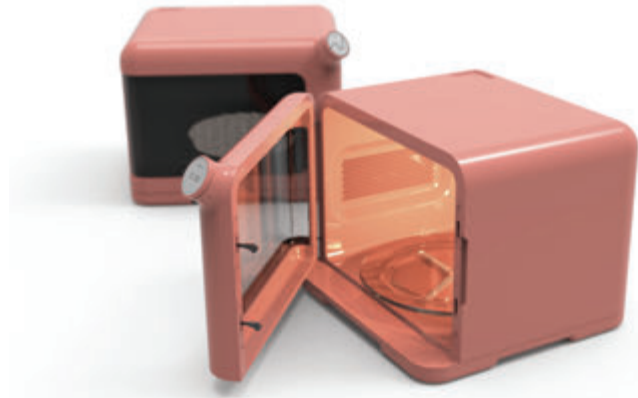
Main colors of our logo are brought from color board of products theme. Purple color is usually explained the terms of 'mysterious' and 'unique'. This color can show pur identity.



Team BYHAND(17), 2018, BYHAND's Water Purifier & MicrowaveOven & hair Dryer & Hand Blender & Beverage Dispenser



Moon Jiwoo(17), 2018, BYHAND's Water Purifier



Cha JiYoun(17), 2018, BYHAND's Microwave Oven



Choi Kihyun(11), 2018, BYHAND's Hand Blender



Jang Juyoung(17), 2018, BYHAND's Beverage Dispenser



Maeng Seungju(12), 2018, BYHAND's Hair Drier

Design and Ideation

ARDE225

Course Outline

This course is to study differentiation factors of design through various design ideation case studies. Also, it is to find and learn fundamental theories and ways of exploring new values in design.

Course Objective

This curriculum is, as a basic course to develop fundamental capabilities in product design,

1. to understand design factors in order to learn innovative design thinking, through various case studies.
2. to study the relations between form and function inherent in design.
3. and to learn ways of approaching new design systematically.

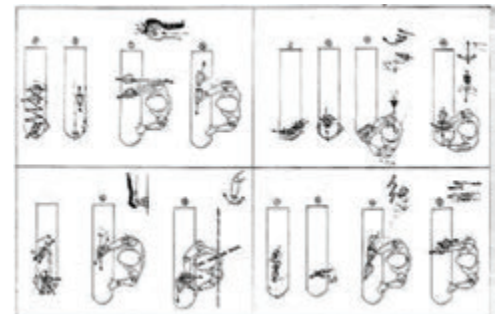
Evaluation

- Midterm assignment evaluation: 20%
- Final project evaluation: 40%
- Participation & attitude: 20%
- Attendance: 20%

GRADUATION THESIS				
DESIGN CASESTUDY		DESIGN PORTFOLIO		DESIGN SEMINAR
DESIGN BRANDING	PRODUCT DEVELOPMENT	PRODUCT SYSTEM DESIGN	DIGITAL DESIGN PROJECT	
FURNITURE DESIGN OF ADVANCED CONCEPT	DESIGN MARKETING	PRODUCT DESIGN STUDIO IV	INTERFACE DESIGN	DESIGN THINKING
PUBLIC DESIGN	DESIGN HUMAN FACTORS	PRODUCT DESIGN STUDIO III	INTERACTION DESIGN	DESIGN METHODOLOGY
DESIGN WORKSHOP	DESIGN AND FORM	PRODUCT DESIGN STUDIO II	INTERACTIVE COMPUTING	DESIGN PROTOTYPING
MATERIALS AND PROCESS	DESIGN AND IDEATION	PRODUCT DESIGN STUDIO I	INFORMATION DESIGN FUNDAMENTALS	4D COMPUTER GRAPHICS
FUNDAMENTAL DESIGN-3D			3D COMPUTER GRAPHIC	
DESIGN PRESENTATION TECHNIQUES			FUNDAMENTAL DESIGN-2D	

Learning Guideline

In terms of course work and learning synergy, this course will be linked with Design & Form (ARDE 278) which are highly recommended as complementary courses in next semester.



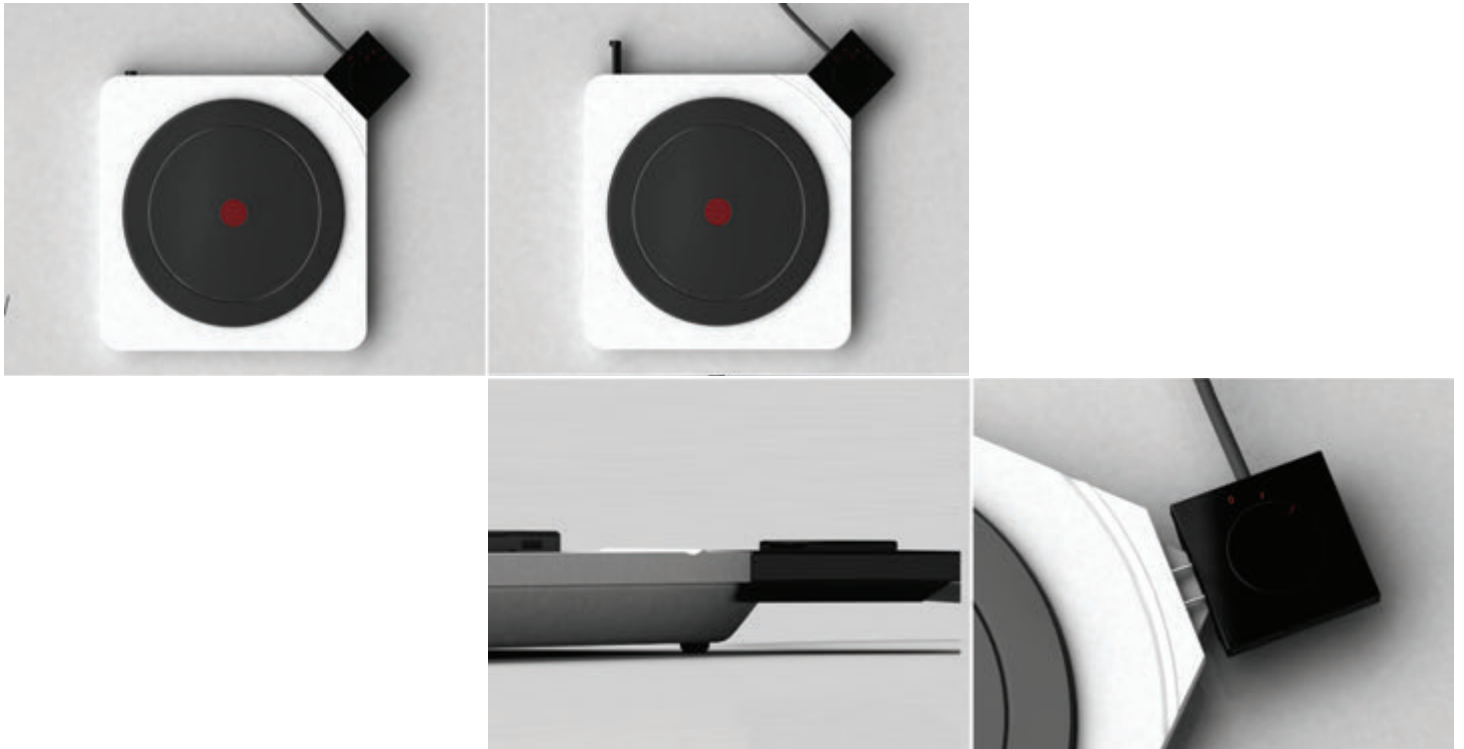
Studying Contents per Week

wk	Topics	Contents	Assignments
1	Orientation on the course (PPT)	Organization of study teams	Changing way of thinking
2	Form study #1	Form and idiosyncrasy (individuality/uniqueness) / PPT 1	Collecting case studies #1
3	Form study #2	Case studies #1 – Presentation & discussion by team	Research #1
4	Form study #3	Understanding the relation between form, structure, materials and details Research #1 presentation / supplementary PPT	
5	Structure study #1	Design and structure / PPT 2	Collecting case studies #2
6	Structure study #2	Case studies #2 – Presentation & discussion by team	Research #2
7	Structure study #3	Understanding the importance of structure Research #2 presentation / supplementary PPT	
8	Mid-term evaluation		
9	Material study #1	Design and material / PPT3	Collecting case studies #3 + Research #3
10	Material study #2	Case studies #3 – Presentation & discussion by team	Research #3
11	Material study #3	Understanding the importance of material Research #3 individual presentation	
12	Details study #1	Design and details / PPT4	Collecting case studies #4 + Research #4
13	Details study #2	Case studies #4 – Presentation & discussion by team / Review	Research #4
14	Details study #3	Understanding the importance of details Research #4 individual presentation & submission	Writing Design ideation report
15	Design ideation 8 Keys		
16	Final evaluation		Individual final report submission

Assignments

HOT-PLATE SOLUTION

This is a burner that you can use at home. Unlike the conventional fixed induction, the movement is possible. It also features a rounded edge outside and a red dot in the middle, which is different from conventional home burners.



Materials and Process

ARDE228

Course Outline

'Material and Process' is the process that students understand what kinds of material and process an object makes. Design starts from idea but students have to anticipate the final material and process beforehand. Therefore, students understand how an object manufactures in the process based on practical material and process. Students will have 4 assignments in each phase about research for materials, object disassembling and reassembling, re-designing and own design project.

Course Objective

'Material and Process' is to learn a practical ability for that students have to understand about basic materials and manufacturing process as a designer. Students learn to have an practical ability for making a design object. Students are going to design the own design object through the knowledge and technology about material and process from the past to the future. And students practice and learn the history of the old, the exploration of the latest technologies, and the own design project for making an object.

Reference

- Chris Lefteri. (2012). Making it manufacturing techniques for product design, Laurence King Publishing
- Chris Lefteri. (2007). Materials for inspirational design. RotoVision SA.
- Rob Thompson. (2007). Manufacturing Processes for Design Professionals, Thames & Hudson
- Edgerton, D. (2011). Shock of the old: Technology and global history since 1900. Profile books.
- Thimo te Duits (Ed.). (2003). The Origin of Things, Fortis
- Cooper Hewitt. (2014). Tools - Extending our reach, Cooper Hewitt.

GRADUATION THESIS				
DESIGN CASE STUDY		DESIGN PORTFOLIO		DESIGN SEMINAR
DESIGN BRANDING		PRODUCT DEVELOPMENT		PRODUCT SYSTEM DESIGN
DIGITAL DESIGN PROJECT				
FURNITURE DESIGN OF ADVANCED CONCEPT	DESIGN MARKETING	PRODUCT DESIGN STUDIO IV	INTERFACE DESIGN	DESIGN THINKING
PUBLIC DESIGN	DESIGN HUMAN FACTORS	PRODUCT DESIGN STUDIO III	INTERACTION DESIGN	DESIGN METHODOLOGY
DESIGN WORKSHOP	DESIGN AND FORM	PRODUCT DESIGN STUDIO II	INTERACTIVE COMPUTING	DESIGN PROTOTYPING
MATERIALS AND PROCESS	DESIGN AND IDEATION	PRODUCT DESIGN STUDIO I	INFORMATION DESIGN FUNDAMENTALS	4D COMPUTER GRAPHICS
FUNDAMENTAL DESIGN-3D			3D COMPUTER GRAPHICS	
DESIGN PRESENTATION TECHNIQUES			FUNDAMENTAL DESIGN-2D	

Course Guideline

Course progress consists the preparation before class, things to do in class, assignment and advising after class. Class is not conducted only in class time. Professor help students' development fully.

Learning Material

In materials and process, an object are disassembled directly to understand the material and process that make up the object. The Phone are made up of about 150 parts, all of which will be manufactured and composed their parts.



Studying Contents per Week

wk	Topics	Contents	Assignments
1	Course Introduction	Goal, Overview lecture, Grading and Evaluation Assignment Explanation	
2		The History of Things	
3	The Origin of Things(Lecture)	The Analysis of Material and Process in History	Analysis of Things in Everyday Life (Individual)
4		Redesigning of Things	
5		Various Process of Manufacture	
6	The Process of Things(Lecture)	Components and Materials	Disassembly of Things, 2 Per Team
7		Analysis of Material about Components	
8	Mid-term Break		
9		Ideation and Sketch	
10	The Material of Things(Lecture)	Making Redesign	Redesign of Things, Individual
11		Finishing	
12		New Materials	
13	The Future of Things(Lecture)	Ideation and Sketch	Creation of Material and Object (Chair or Light), 2 Per Team
14		Making Chair or Light	
15		Finishing	
16	Epilogue and Exhibition		

Assignments

Rice Cooker

This rice cooker is a combination Rice Steamer. It applies to various different methods for the cooking process, which have an advantage of saving time and resources. It is also an example of the digital technology. These products are controlled through a large touch screen, which makes the use of the product easier. It also supports mobility in automatic cooking mode back to the screen. It also supports mobility in automatic cooking mode.

Historical Context

Historical Map

Exploded view

An exploded view is a diagrammatic, orthographic or technical drawing of an object, that shows the location or order of assembly of its parts. It is used to illustrate the construction of an object and/or to provide the user with instructions on how to assemble or disassemble the object.

Material

aluminum rice cooker, plastic rice cooker

Contents

Part	Material	Color	Size	Weight
Control Panel	ABS	Black	150x100x10	150g
Inner Pot	Aluminum	White	200x200x150	1.5kg
Outer Pot	Aluminum	White	250x250x180	2.5kg
Pressure Cooker	Aluminum	White	200x200x150	1.5kg
Steamer Basket	Aluminum	White	150x150x50	100g
Measuring Cup	Plastic	White	100x100x100	50g
Measuring Spoon	Plastic	White	50x50x50	20g
Manual	Paper	White	200x300	50g

Usage

Historical Research and Exploded View about Rice Cooker

EXPLODED VIEW SEWING MACHINE

"One of the few useful things ever invented"
- Martin Luther King

RICCAR AM-8320

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MAIN PARTS

CRANK SYSTEM
A crank is a part of a mechanism that converts the motion of a rotating shaft into a reciprocating motion. It is used in many types of machinery, including engines, pumps, and compressors.

PRESSOR FOOT BAR
A pressor foot bar is a part of a sewing machine that supports the pressor foot. It is used to hold the foot in place and to guide the fabric as it is sewn.

NEEDLE BAR
A needle bar is a part of a sewing machine that holds the needle. It is used to move the needle up and down as it sews.

FEED DOG
A feed dog is a part of a sewing machine that moves the fabric forward as it is sewn. It is used to control the length of the stitches.

BOBBIN
A bobbin is a small spool of thread that is used in a sewing machine. It is used to hold the thread in place as it is sewn.

Historical Research and Exploded View about Sewing Machine

Information Design Fundamentals

ARDE229

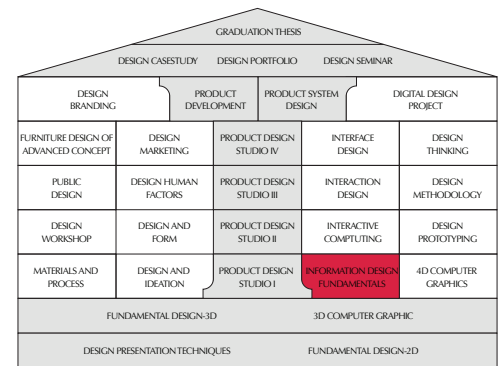
Course Outline

This class is a newly designed & opened class for basic level students to get essential knowledge and UX prototyping tool techniques. The aim of the course is aspiring students to learn the prototyping skills for expressing their interactive and multi-dimensional attributes of design concepts. Students who are applying this course are highly required for pre-acquisition of their 2D graphic tools techniques and 3D graphic tools techniques.

Course Objective

The main objectives of this course are as follows;

- To learn the narrative story telling techniques of design concept and scenario.
- To understand the static / dynamic attributes of design and optimal expression for it.
- To express the sequential / interactive information flow and the efficient design of UX
- To learn how to express design concepts with tools such as Adobe Suites or Quick Prototyping Tools



Information Design Elements

- Lal, R., Digital Design Essentials: 100 Ways to Design Better Desktop, Web, and Mobile Interfaces, Rockport, 2013
- Moggridge, B., Designing Interactions, The MIT Press, 2007
- Pannafino, J., Interdisciplinary Interaction Design, Assiduous Publishing, 2012
- Saffer, D., Microinteractions: Full Color Edition: Designing with Details, O'Reilly, 2016

Information Design Drawing

- Macintosh human interface guide, apple, 2001 (will be distrusted in class.)
- iOS Human interface guide, apple, 2011
- Windows phone 7 interface guide, 2011

Information Visualization

- McCandless, D., The Visual Miscellaneum, , HarperCollins Publishers, 2012
- Tufte, E.R., The Visual display of quantitative information, graphics PR, 2001
- Tufte, E. R., Envisioning information, Graphics PR, 1990
- Tufte, E. R., Visual Explanations: Images and Quantities, Evidence and Narrative, Graphics PR, 1997
- Stephen Few, Information dashboard design, 2011
- Yau, N., Visualize This: The Flowing Data Guide to Design, Visualization and Statistics, Wiley, 2011

Reference

- Zwick, C., Designing for Small Screens, Ava Publishing, 2006
- Nielsen, J., Designing Web Usability, Peachpit Press, 1999
- 제이콥 닐슨 저, 김옥철 역, 사용하기 쉬운 웹사이트가 성공한다. , 안그래픽스, 2002
- Carroll, J.M., Usability Engineering: Scenario-Based Design, John Wiley & Sons, 1995,
- Lindell, W., etc. Universal Principles of Design, Rockport Publishers, 2003
- Buxton, B., Sketching User Experiences, Morgan Kaufmann, 2007

Evaluation

- Mid Term Small Project: 20% / Assignment: 20%, (Seminar and Practice) / Term Project: 50% / Attitude & Attendance: 10%

Term Project

1. Interactive Application Design
 - 1.1 Create an application concept demonstration.
 - 1.2 Generate screen design/ information architecture / storyboard for a application.
 - 1.3 Make design source files (Bitmap, 3D, Vector graphics, Movie clips)
 - 1.4 Compose Interactive Quick Prototyping with prepared sources.
2. Information Design
 - 2.1 Basic Documents for UX design (Design Brief, UI, GUI concept guideline that works in the real filed.
 - 2.2 Management of design documents : Communication, Versioning, History, Designer and Transition.
3. Design Communication
 - 3.1 Design concept report, Flash Drive, Panel (A0), Presentation
 - 3.2 Demonstration should be 03:00 ~ 03:30 min. length.

Mid Term Small Project

- Tablet or Smartphone based interactive application.

Seminar

1. Two persons (team) will be responsible for proceeding book seminar of 15 min each on every class.
2. Students will divide the book sections on the second class.

Design Practice

- Design drafting practice per each class.

Studying Contents per Week

wk	Studying Contents	Activity	Textbook
1	Course Introduction DesignDraftOverview		Overview Reference Review
2	Phase 1 Elements of information design	Report : Good Interaction Design	Rules for Information Design Concepts for Digital Design Understanding Users
3	Phase 1 Elements of information design	Report : Good Information Design User Behavior Observation Platform Board Creation	Information Device / S/W / Web Info. Structure Description Design Platforms
4	Phase 2 Elements of information design	Static and Dynamic Tools Sketch, Invision	UI / GUI Description / Typo / Moodboard / Color Code Guideline Publishing Digital Interaction Prototyping
5	Phase 2	Design of Mobile App Planning Visual Sketch and Design	Concept Workshop Micro Interactions Grid & Layouts
6	Phase 2 Interaction Development	Design of Mobile App Key Interactions and Movement Storyboard	Usability, Storyboard & Flowchart Design GUI Visualization Digital Interaction Prototyping
7	Phase 2 Interaction Development	UI Design Guideline Publish	UI / GUI Description Guideline Publishing
8	Midterm Presentation		Design Presentation Technique & Critics
9	Phase 3 Application Prototyping	Adobe Tools HTML / CSS / Wordpress	Interactive Communication Planning
10	Phase 3 Application Prototyping	Adobe Tools HTML / CSS / Wordpress	Interactive Visualization
11	Phase 3 Application Prototyping	Term Project Topic - Product, UI and GUI Concept	Interactive Prototyping
12	Phase 4 Term Project	Term Project Topic	Information Design & Prototyping - Concepting / Image Keywords - User Interview / Survey
13	Phase 4 Term Project	Term Project	Information Design & Prototyping - Information Architecture/ Task Flow
14	Phase 4 Term Project	Term Project	Information Design & Prototyping - GUI & Interaction Development
15	Phase 4 Term Project	Term Project	Information Design & Prototyping - GUI & Interaction Development
16	Final Presentation	Softcopy, Presentation, Youtube Hardcopy	Design Presentation Technique Drawings UI Flow Flipbook & Panels

Interactive Computing

ARDE230

Course Outline

In order to understand the processes and principles in which visual interaction designs are implemented, this class will learn basic algorithms of computer-based programming, visual representations using them, and more, various implementation cases of interaction prototyping through discussion and practice. For efficient teaching, open source software Processing, as a development environment, classes are operated online, and actual interaction presentation/production processes based on the content learned are operated offline.

- Learn the coding language that implements visual interaction designs
- Screen-based visual interaction algorithm basic case study
- Learn the process of developing visual interaction concepts and presenting implementation through prototyping

Course Progress

Online :

- Self-learned through the exercise video specified on Youtube, and provide examples from the classroom exercise.
- The on-line class of <Self Assignment> practices in off-line classes (recommended to practice in advance)

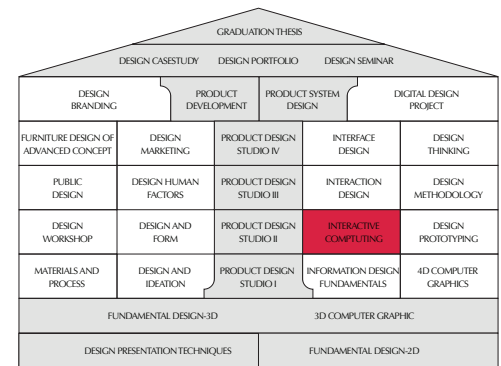
*Youtube video address: <https://goo.gl/1iuCVE> or search 'Processing coding exercise for visual interaction design'

Offline :

- 2 hours to 2 hours and 30 minutes of practice.
- 2 - 3 example exercises associated with online lectures, starting with <Self Assignment>.
- The assignments you create are immediately uploaded to your openprocessing.org account.
- Work on developing independent projects for 13 to 16 weeks is conducted during offline lectures.
- Tasks (Exercise per week 20% : Mid-term task 30%: Final assignment 40%): 90%
- Attendance and attitude: 10%

Reference

- 다니엘 슈프만 저/유하영, 전우영 공역, 러닝 프로세싱, BJ퍼블릭, 2016 (주교재)
- 케이시 리아스, 벤 프라이 공저/황주선 역, 손에 잡히는 프로세싱, 인사이트, 2011
- The Nature of Code, <http://natureofcode.com/book/>
- Processing.org Tutorial, <https://processing.org/tutorials/>
- Plethora-project, <http://www.plethora-project.com/education/2011/09/12/processing-tutorials/>
- Fun Programming, <https://www.funprogramming.org/>
- Everyware, <http://everyware.kr/home/category/lectures/processing/>
- Open Processing, <https://www.openprocessing.org/>



Learning Guideline

This course will be conducted in the Flipped Learning* format, where online and offline classes are conducted separately.

* Fliped Learning: Lectures are video-based, home-based, and homework-based practices.

Studying Contents per Week

wk	Offline	Online
1	Introduction	1 Introduction / Coordinate System / Primitives / Color
2	Draw characters	2 Variable / Repetitive
3	Draw pattern	3 Translate / Shape
4	Draw and imitate artwork	4 Function / Object
5	Draw changing patterns	5 Array / ArrayList
6	Draw moving picture	[Intermediate] OOP Project
7	Interaction effect	
8	Mid-term presentation	
9	Soft movement effect	6 Mathematics / Physics 1
10	Rotation effect	7 Mathematics / Physics 2
11	Image and pixel effects	8 Image / Pixels
12	Making video effects and sound	9 Video / Sound
13	Final project: Presentation of concept	10 Libraries
14	Final project: Individual check and individual operation	
15	Final project: Individual check and individual operation	
16	DOT exhibition	

Design and Form

ARDE278

Course Outline

This course is to study ways of embodying design ideas, as a follow-up for the curriculum 'Design and Ideation'. In addition, it is to understand the relation between form and structure inherent in design, and to study the process to approach innovative design.

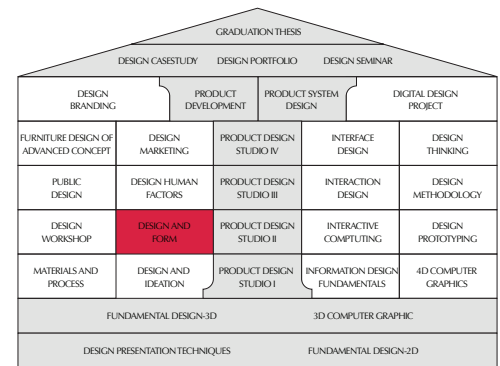
Course Objective

This curriculum is, as a basic course for fundamental capabilities in product design, to learn the process of realizing an idea into a physical object, while the prior curriculum 'Design and Ideation' is mostly to learn knowledge of ideation approach to design function.

1. to understand the role of forms in realizing process.
2. to understand the method and attributes of shaping.
3. and to learn ways of embodying emotional attributes in forms.

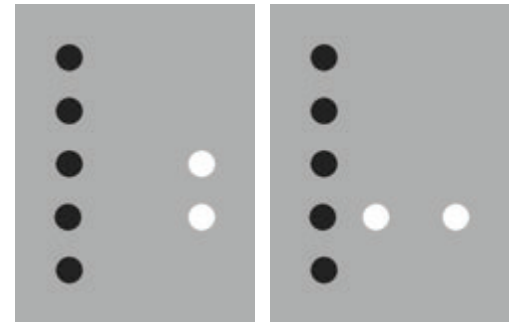
Evaluation

- Midterm assignment evaluation: 20%
- Final project evaluation: 40%
- Participation & attitude: 20%
- Attendance: 20%



Learning Guideline

This class is basic course for product design. Students learn design language and methods of making images for individuality.



Individual Assignments



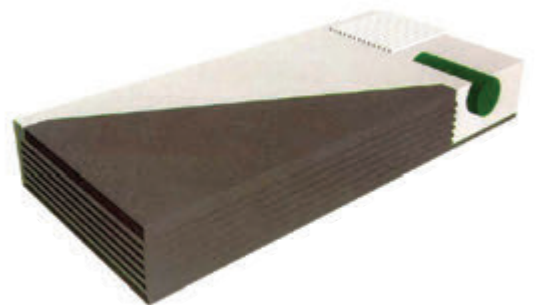
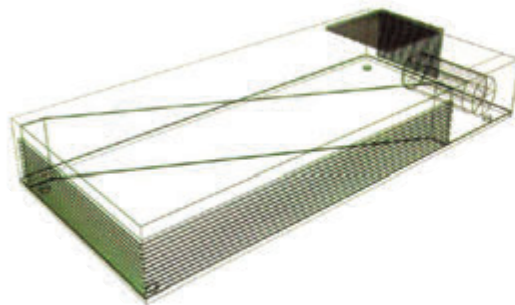
Studying Contents per Week

wk	Topics	Assignments
1	Orientation on the course / Organization of study teams Understanding of design language	
2	2D study Attributes of elements / Relation between elements	Team assignment : Theme expression #1
3	Presentation & discussion on team assignment Approach to 3D	Team assignment : Interpretation of design language of 4 designers
4	Presentation & discussion on team assignment 3D study #1	Preparation materials : A3 paper (sketch purpose), black pen
5	3D study #2 Styling / Embodying	
6	Design language study #1 (TARGETING) Attributes and idiosyncrasy of elements	Team/individual assignment : Sketching E. Kettle for target group
7	Presentation & discussion on team assignment Design language study #2	Team assignment : Image collecting and analyzing
8	Mid-term evaluation (comprehensive evaluation on team assignment)	
9	Presentation & discussion on team assignment Design language and visual order	Team assignment : Targeting case study A + B
10	Presentation & discussion on team assignment Method of individuation Idiosyncrasy study Project Kick-off	Team assignment : P#1 – Toaster configuration study + target consumer #1 + design planning + image collection P#2 – E. Kettle configuration study + target consumer #2 + design planning + image collection
11	Presentation & discussion on team assignment Target study (P#1, P#2 emotional tendency analyzing) Design planning	Individual assignment : Developing images of Toaster for the target consumer #1 > Thumbnail & Sketch (Sketch to be prepared in A3)
12	Presentation & discussion on individual assignment P#1 Modeling study-#1 / Styling	Individual assignment : Toaster / Modeling & Rendering
13	Presentation & discussion on individual assignment P#1 Modeling study-#2 / Styling	Individual assignment : Developing images of E. Kettle for the target consumer #2 > Thumbnail & Sketch (Sketch to be prepared in A3)
14	Presentation on individual assignment / P#1 submission P#2 Modeling study-#3 / Styling	Individual assignment : E. Kettle / Modeling & Rendering
15	Presentation on individual assignment P#2 Modeling study-#4 / Styling	Individual assignment : Preparation for project 2 submission
16	Final evaluation / P#2 submission	Evaluation on individual assignment & team assignment < individual evaluation focused

Assignments

INDIVIDUALITY AND IMAGE

Design unique products that are different from the traditional ones.
And in the process of forming differentiation, we can think of the association between the function and shape of a product.



VISUAL POSITION

Visual methods should be considered during product design. Because even the same product has different characteristics depending on how you deploy the elements.



Design Workshop

ARDE327

Course Description

This course is also for enhancing designer's craftsmanship, creativity, communication, contents, and collaboration(5Cs). After discussing our experience, thinking processes and working environment, we will list the common barriers to innovation. We will first define the real problems, study the difficulties from different points of view, and find alternate paths around the barriers to bring concepts to fruition. On the other level, we will explore various philosopher's creativity methods and those conditions in history that have contributed to people's innovations.

Workshop 1

Ideas, Innovations, and Inventions

As an inventor's role-playing, each student lists a bug list from their everyday life. Then select a problem from your bug list and use small tools to invent a product based on the problem. Humor must be involved along the problem solving process.

Workshop 2

Food, Utensil Design, & Party Planning

A unique project that arises on occasion is a project involved with food. A system of food design can open up new unexpected ideas that correlate not only to cooking but also to design.

Workshop 3

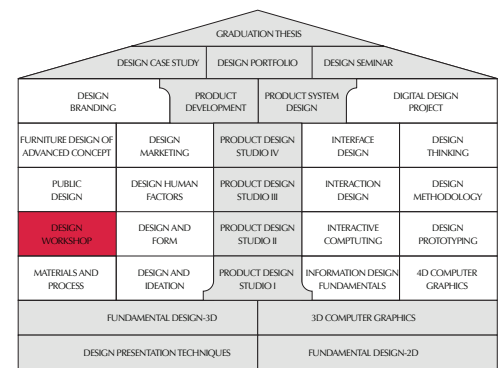
Experimental Composition & Furniture Design

As a Designer's (Designer + Artist) role-playing, each student take a product and disassemble all the component. Then choose one favorite artist and make a 3 dimensional collage like a sculpture using the artist's visual styling.

Workshop 4

Competition, Entertainment, and Excitement

As an entertainer's role-playing, each student are expected to compete intensively among The teammates. Projects like race for human powered bike made of paper only or rubber Band bike race which induces interest and competitiveness at the same time.



Learning Guideline

This Course is only for Industrial Design Major Students. All students must have 3D model building skill.

Assignments



Reminiscence and Enjoyment

Background

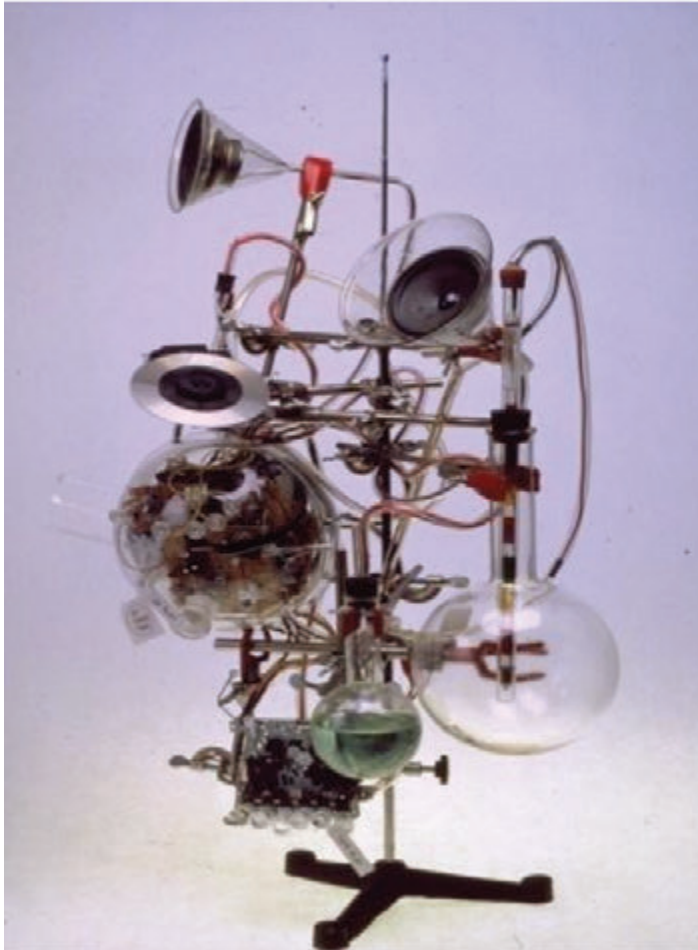
Modern industrial designers have a greater presence in the initial product designing phase than in the past. As a result, the ideation or inventor phase is crucial. As an inventor, students focus on a problem and generate multiple possible solutions.



Workshop2 : Food Design

Background

A unique project that arises on occasion is a project involved with food. A system of food design can open up new unexpected ideas that correlate not only to cooking but also to design. Maht is another Korean term used to describe a pleasurable taste which is correlated with dish function and triggered by Muht. With this in mind, both Muht and Maht are analogous to the design process when considering aesthetic form and function respectively.



Workshop3 : 3D Collage & Art Furniture

Background: Designers need to invent, entertain but also need artistic sensibilities of both a fine artist and a craftsman. With all these sensibilities intact, I have come up with the term "designist" to capture the various methods in which we create.



Workshop4 : Fun Competition

Background
With strong team spirit, each student are expected to compete intensively among the teammates. Projects like race for human powered bike made of paper only or rubber band bike race which induces interest and competitiveness at the same time.

Product Design studio III

ARDE311

Course Outline

This course will introduce students to fundamental industrial design processes and development; covering aspects of research, ideation, concept development, and delivery of design outcomes.

The focus of 'Design Studio III' is to learn research and analyze skills and methods of industrial design development in a realistic context.

- To learn about the industrial design process in order to generate quality design results within the given methods.
- To learn the design methods and skill sets.
- To learn about the organization of design works.
- To learn how to be more creative during the ideation phase.
- To learn how to design as part of a group activity.

Course Objective

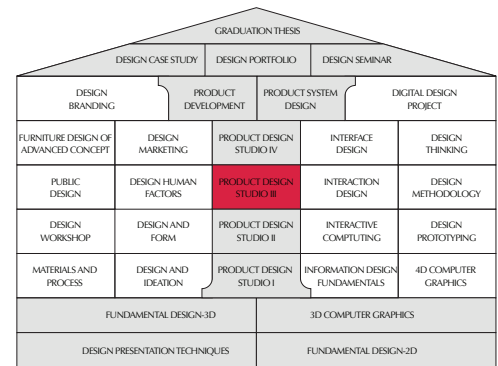
The design process is going to be composed of three phases: Strategic Research, Creative Design, and Product Development. Each phase is organized with different methods and skill sets to resolve different challenges. I believe the creative design phase needs to be in parallel with all other phases of product development by utilizing interactive design methods and heuristic design thinking.

Course goals

- To provide students with professional industrial design processes.
- To provide students with advanced designing skills and techniques.
- To provide students with the practical experience of industrial design ideation phase.
- To provide students with the ability to use the various design skills and techniques for a presentation.
- To encourage individual growth to its highest potential.
- To help students to be more comfortable collaboratively and interactively of teamwork environment.

Reference

- Daniel H. Pink. Drive: The surprising truth about what motivates us.
- Tom Kelley, David Kelley. Creative confidence: unleashing the creative potential within us all. October 15, 2013.
- Luke Williams, Disrupt: Think the unthinkable to spark transformation in your business.



Learning Guideline

The class is a major required course and primarily intended for the Industrial Design Junior students. Students will learn the design processes by developing design concepts under a given subject. An instructor will provide a subject on the first day of classes. Product Design Studio I, II are the prerequisite courses for taking Product Design Studio III.

Evaluation & Grading

Project quality is a crucial evaluation material. Good design will bring a good grade. However, student's class participation and attitude are also very important evaluation guide. Four absences will because of F grade (exception: excused absence) and also delayed assignment submissions affect a lower grade.

- Attendance, observed performance, attitude, etc.: 20%
- Micro projects: 20%
- Research and analysis, first presentation: 20%
- Revised chosen concepts, second presentation: 20%
- Final presentation board: 20%.

Studying Contents per Week

wk	Topic	Contents
1	Course Introduction	
2	Discover phase	Macro research and Popular media scan
3	Discover phase	Competition investigation and Offering-Activity-Culture Map
4	Define phase	Analyze research data
5	Ideation phase 1	Building empathy with analogies
6	Ideation phase 2	Brainstorming processes
7	Ideation phase 3	Idea sketching
8	Mid-term break	
9	Conceptualization phase 1	Create persona
10	Conceptualization phase 2	Create concepts
11	Conceptualization phase 3	Create mood board
12	Design phase	Visualize chosen concept and information
13	Revise design	Create CMF and artwork document
14	Prepare presentation	Ortho-graphics and renderings
15	Final presentation and critic	Presentation
16	DOT exhibition	

Assignments



Concept product development

Home decor industry.



Mass product development

The focus of this course is to learn industrial design development process in various realistic contexts.

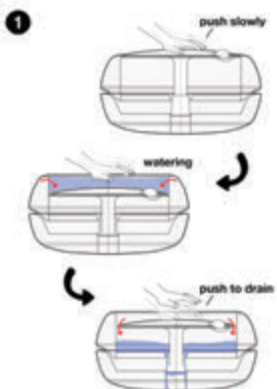
About Course

This course has had success with class projects focusing on 'Near-future concept development' previously, for example the subject from the previous projects; Smart phone accessory concept design project for Samsung Galaxy Note, LG design identity system development, Solutionix's industrial 3D scanner project, new concept innovation project for medical services, etc.



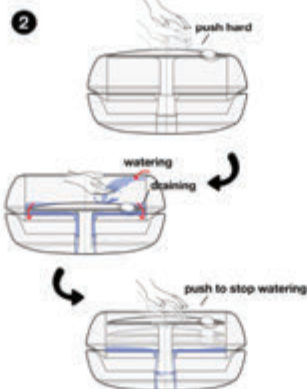
Reservoir water mode

Press gently the central part(Control area) of the basin with your palm. It activates the sink into reservoir mode. The sink will be filled with water, as much as the bottom(Control plate) is pressed.



Spring water mode

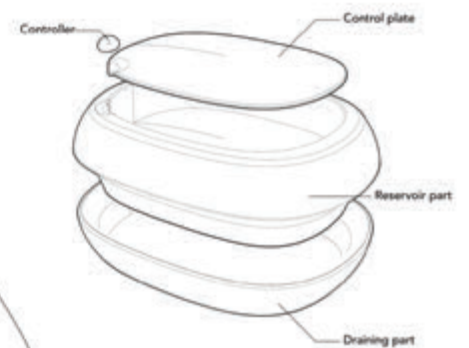
Press hardy the central part of the sink, and the sink will activate into spring water mode. This task could be similar with the ordinary sink we use.



Temperature. controler



Exploded



Product Design Studio IV

ARDE312

Course Outline

This course focuses on how digital technology can change our lives through design. Attention is drawn to how human beings can interact with digital technologies and create new experiences through creative interaction methods and design presentation. Through understanding of the technology issues that are drawing attention in recent years and consideration of the potential for social, cultural and economic changes, we will think about our products and services, especially how we interact with humans.

Course Objective

- Presentations and weekly lectures in the form of individual reviews/workshop
- The two divisions are morning-product-centered, afternoon-media oriented project (please be careful when applying for classes)

Course Project (Team & Individual)

- Prototype : Prototypes that express the form and function of a proposed service application or product
- Presentation Panel: Exhibition panel including design concept and development process (A0 Size portrait)
- Video Scenario: Use scenario images with prototypes

Evaluation & Grading

- Projects 80% (calculated as creative 30 + completeness 40 + aesthetic 30 = 100 basis)
- Attitude, attendance 20%

GRADUATION THESIS				
DESIGN CASE STUDY		DESIGN PORTFOLIO		DESIGN SEMINAR
DESIGN BRANDING		PRODUCT DEVELOPMENT	PRODUCT SYSTEM DESIGN	DIGITAL DESIGN PROJECT
FURNITURE DESIGN OF ADVANCED CONCEPT	DESIGN MARKETING	PRODUCT DESIGN STUDIO IV	INTERFACE DESIGN	DESIGN THINKING
PUBLIC DESIGN	DESIGN HUMAN FACTORS	PRODUCT DESIGN STUDIO III	INTERACTION DESIGN	DESIGN METHODOLOGY
DESIGN WORKSHOP	DESIGN AND FORM	PRODUCT DESIGN STUDIO II	INTERACTIVE COMPUTING	DESIGN PROTOTYPING
MATERIALS AND PROCESS	DESIGN AND IDEATION	PRODUCT DESIGN STUDIO I	INFORMATION DESIGN FUNDAMENTALS	4D COMPUTER GRAPHICS
FUNDAMENTAL DESIGN-3D			3D COMPUTER GRAPHICS	
DESIGN PRESENTATION TECHNIQUES			FUNDAMENTAL DESIGN-2D	

Learning Guideline

No specific textbooks are available, and materials are distributed separately if necessary with regard to subject matter of materials utilising previous lectures on user research or design processes.

Studying Contents per Week

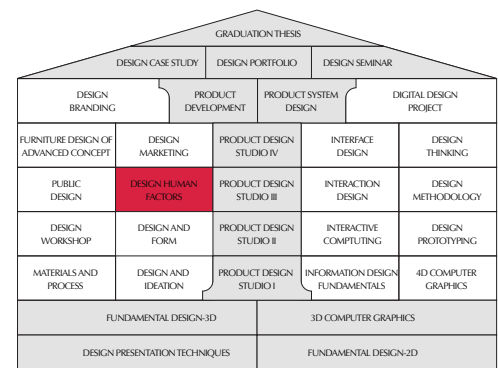
wk	Topics	Contents	Assignments
1	Theme Announcement	Publication of topics Sharing the background for selecting topics	
2	Tech Watch	Status and Prospect of Technological Zones Interpretation and Possibility	Presentation
3	People Watch	User Research in the Lifecycle Results-based Workshop Reinterpretation of Daily Objects and Human Experience	Presentation
4	Ideation Workshop	Tech Watch and People Watch result-based ideation workshop Team Activity & Coaching	Workshop
5	1st Presentation : Proposal	* Containing : Design concept, design concept, use scenario, etc. related to the topic Present application services and products as initial concept revenge, including both	Presentation
6	Initial Design Development	Initial design concept coordination, build/struct/feature adjustments check key user experience --> Planning experience prototyping	Reviews & Workshop
7	Experience Prototyping Development	Experience Prototyping Progress Fine-Design Alignment Check modifications	Reviews & Workshop
8	Mid-term		
9	2nd Presentation : Design Improvement	* Containing : Results of experience prototyping and final proposal for design improvement	Presentation
10	Development : Detail Design Check-up	Check detailed design progress by element soft mock-up (product) / Wireframe (media)	Reviews & Workshop
11	Development : Detail Design Check-up	Check detailed design progress by element Render Modeling (product) / Sketch Modeling (media)	Reviews & Workshop
12	2nd Presentation : Intermediate Design Results	* Containing : Design deliverables such as soft mock-up , modeling / Wireframe, (media)	Presentation
13	Refinement : Prototyping	Improved design details, modified 3D Prints (Products) / Interaction Prototypes (Media)	Reviews & Workshop
14	Refinement : Prototyping / Video Scenario	Complete design details. Video scenario 3D Prints (Products) / Interaction Prototypes (Media)	Reviews & Workshop
15	Final Presentation	* Containing : Final display (panel/video/mobility) Presentation during household appliances.	
16	Design on Thursday(DOT)		Presentation

Design Human Factors

ARDE313

Course Outline

While the role of design continues to expand in modern society, it is becoming more critical for designers to understand the various aspects of human factors in design. Grounded in a holistic design thinking and practical approaches, this course will provide students with a comprehensive knowledge in the human-centered design. Through a project-based design process, students will learn the fundamental principles and methods in physical, cognitive, and socio-cultural human factors. The course project will be balanced between rational researches and real-life design practices by discovering meaningful opportunities and by developing and testing the digital/physical design solutions in a human-centered approach.



Course Objective

The goal of this course is to learn the fundamental elements of human factors in design and to apply them to a product and service design development in practical manners.

- To learn about the human-centered process in creating a meaningful design solution for target users
- To understand the critical principles of design thinking in holistic user experience design
- To learn collaborative culture & manners through diverse human-centric design activities
- To learn the user-driven design methods and research skillsets

Reference

- Brown, T., Change by Design, Harper Business, 2009
- Chipchase, J., Hidden in Plain Sight, Harper Business, 2013
- Erwin, K., Communicating the New, Wiley, 2013
- Goodwin, K., Designing For the Digital Age, Wiley, 2009
- Jordan P., Designing Pleasurable Products, CRC Press, 2002
- Kumar, V., 101 Design Methods, Wiley, 2012
- Lidwell, W., Universal Principles of Design, Rockport Publishers, 2010
- Norman, Donald A., The Design of Everyday Things, Basic Books, 2013
- Norman, Donald A., Emotional Design, Basic Books, 2005
- Papanek V., Design for the Real World, Chicago Review Press, 2005
- Whiteley, N., Design for Society, Reaktin Books, 1997
- Lupton E., Beautiful Users, Princeton Architectural Press, 2015

Evaluation & Grading

While a term project itself is a major object of evaluation, in-class participation and attitude are also critical in individual grading. Final grading will be made based upon participation of class activities, research quality, and project outcomes and in order to maximize class learning process, peer evolution in each phase of presentations will be also included.

- Research works & presentations (Interim & Midterm): 40%
- Final project & presentation: 40%
- Attendance & class participation: 20%

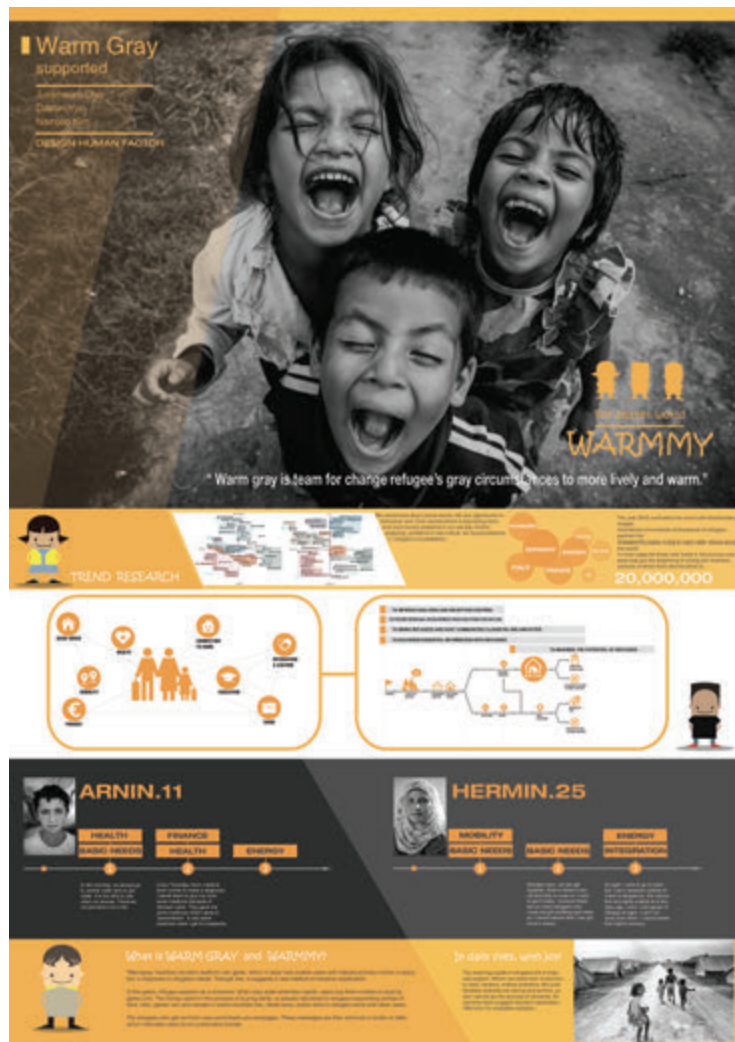
Studying Contents per Week

wk	Topics	Contents	Assignments
1	Course Introduction	Course Intro & Overview Term Project Introduction Understanding People: Who am I	Case Study : Good & Bad design
2	Intro: Design Human Factors	Design & Human Factors Human-Centered Design Design Thinking Process	Trend Research
3	Discover 1	Starting with WHY: Seeing Bigger Context Macro Trend Research	Problem Finding & Analysis
4	Discover 2	Discovering New Opportunities Problem Space & Solution Space Brainstorming	Project Item selection
5	Interim Review	Team Presentation:Trend & Opportunity Q & A Sessions, Discussion	Research Update
6	Define 1	Defining Target Users & Unmet Needs Segmentation, Targeting, Positioning User Research Methods	User Research (Survey, Interview, Observation)
7	Define 2	Developing Personas Building User Scenario, User Experience	Concept Scenarios
8	Define 3	Defining Value Proposition Design Guideline & Principles Evaluation Criteria	Product Definition
9	Midterm Project Review	Team Presentation : Products Concept Q & A Sessions, Group Discussion	
10	Develop 1	Physical Human Factors Ergonomics, Form Factor Design, ID Ideation & Concept Design	Concept Sketch
11	Develop 2	Cognitive Human Factors Usability, IA & User Interface, Accessibility Functional Prototyping	Rendering
12	Develop 3	Socio-Cultural Human Factors Global & Local Design 2D/3D Modeling	Prototyping
13	Develop 4	Emotional Human Factors Aesthetics, Visual Design, CMF, Branding Design Iteration & refinement	Modeling
14	Develop 5	Concept Testing Evaluation Methods Individual Review & Critics	User Test Final Presentation
15	Deliver Final In-class Presentation	Final Presentation Peer Evaluation & Discussion Course Recap & Wrap-up	Prep for DoT
16	Design on Thursday(DOT)	Design Exhibition Event (No Class)	Report & Material Submission

Assignments

WARM GRAY and WARMMY

Warmgray transfers donation platform into game, which in daily lives enable users with interest actively involve in donation in response to refugee's needs. Through this, it suggests a new method of donation application.



The Vast and Community Application for Health

This vast and application for health communication have various functions, which Emergency Button, Health Sensor, Posture Corrector, Spine Support, Adjustable Straps, Lumbar Support so that people can share through a mobile application.



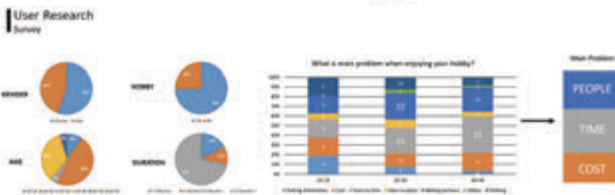
ROAD - Leads to Your Choice & Life

ROAD helps the user plan of the day, consistently alert their schedule, and make sure the user goes through with the schedule through the watch and mobile application.

STEP 1. Research & About ROAD

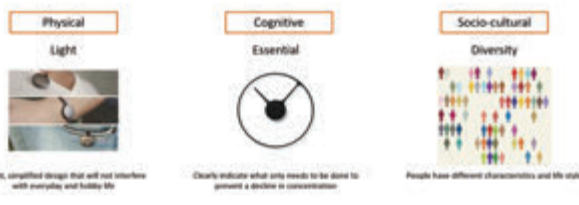


STEP 2. Target User Analysis

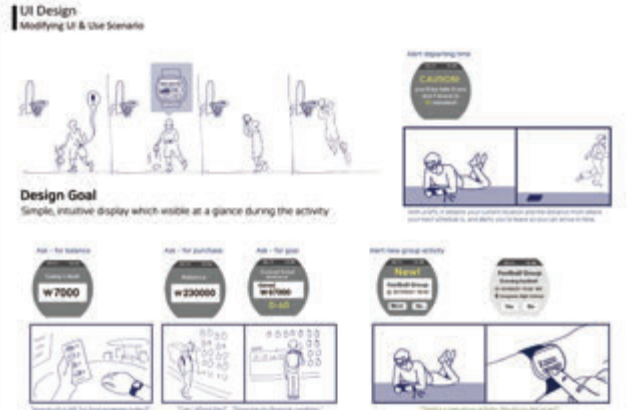
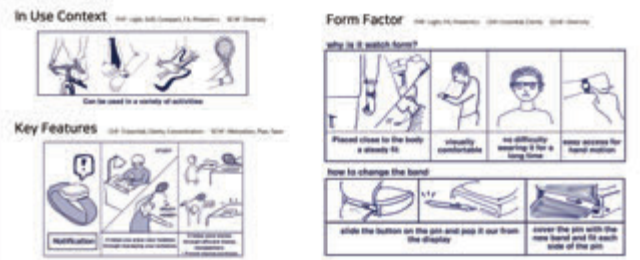


Help the user **PLAN** the day, Consistently **ALERT** their schedule
Make sure the user goes through with the schedule

ROAD
Design Human Factors Guideline



STEP 3. Design Process



Design Marketing

ARDE314

Course Outline

This course combines the basics of marketing with the design methodology approach to create a creative design marketing strategy. It is a curriculum that considers and learns various cases.

Course Objective

Innovative design that adapts to fast-changing market environment with general knowledge and understanding of marketing. The goal is to foster thinking power.

Grade

- Team project and presentation (50%)
- Pop Quiz (10%)
- Discussion and Participation (10%)
- Attendance (30%) (Decision: 2 points reduction / reduction of perception: 1 point reduction / admission of absence - when submitting a notice and application)

GRADUATION THESIS				
DESIGN CASE STUDY		DESIGN PORTFOLIO		DESIGN SEMINAR
DESIGN BRANDING	PRODUCT DEVELOPMENT	PRODUCT SYSTEM DESIGN	DIGITAL DESIGN PROJECT	
FURNITURE DESIGN OF ADVANCED CONCEPT	DESIGN MARKETING	PRODUCT DESIGN STUDIO IV	INTERFACE DESIGN	DESIGN THINKING
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MATERIALS AND PROCESS	DESIGN AND IDEATION	PRODUCT DESIGN STUDIO I	INFORMATION DESIGN FUNDAMENTALS	4D COMPUTER GRAPHICS
FUNDAMENTAL DESIGN-3D			3D COMPUTER GRAPHICS	
DESIGN PRESENTATION TECHNIQUES			FUNDAMENTAL DESIGN-2D	

Learning Guideline

Create and publish a plan that includes design development and strategy for brand renewals

Studying Contents per Week

wk	Contents	Lectures
1	Orientation	Explain the subject and introduce the course of progress
2	Design and Marketing	Changing the Role and Scope of Designers Design Marketing Overview and Planning and Procedures
3	Product Design	Product Concepts and Features Product management and life cycle
4	Consumer Analysis and Market Research I	Key Consumer Analysis Techniques I
5	Consumer Analysis and Market Research II	Key Consumer Analysis Techniques II
6	Presentation and feedback of research by team I	Presentation and discussion of tasks by team I Create Self-Assessment I
7	Presentation and feedback of research by team II	Presentation and discussion of tasks by team I Create Self-Assessment II
8	Presentation and feedback of research by team III	Presentation and discussion of tasks by team I Create Self-Assessment III
9	Design Management	Management and Evaluation of Corporate Design Key elements of Good Design (visual viewing)
10	Corporate Design (CD) Strategy and Management	CI (Corporate Identity) / BI (Brand Identity) / PI (Product Identity) / SI (Space Identity) / CSI
11	Brand Identity (BI) Strategy	Brand Core Value & Iconization
12	Presentation and feedback of results by team I	Presentation and discussion of the results of each team task I Create Self-Assessment I
13	Presentation and feedback of results by team II	Presentation and discussion of the results of each team task II Create Self-Assessment III
14	Presentation and feedback of results by team III	Presentation and discussion of the results of each team task III Create Self-Assessment III

Design Thinking

ARDE320

Course Outline

This course will introduce students to advanced industrial design processes and development; covering aspects of research, ideation, concept development, and delivery of innovative new design concepts. Students will specifically focus on the aspects of the meaning of 'Design Thinking' and how designers use 'Design Thinking Process' on the professional industrial design level.

The focus of 'Design Thinking' is to learn brainstorming and ideation skills and methods of industrial design development in a realistic context.

- To learn about the industrial design process in order to generate innovative conceptual design results within the given methods.
- To learn the design thinker's mindset and profile.
- To learn about the procedure of the brainstorming session.
- To learn how to be more creative during the ideation phase.
- To learn how to design as part of a group activity.

Course Objective

The design process is going to be composed of three phases: Strategic Research, Creative Design, and Product Development. Each phase is organized with different methods and skill sets to resolve different challenges. I believe the creative design phase needs to be in parallel with all other phases of product development by utilizing interactive design methods and heuristic design thinking.

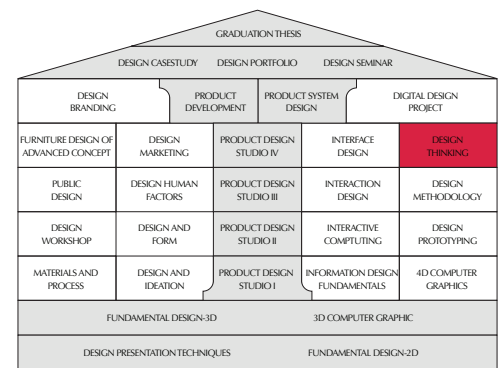
"The Design Thinking is always linked to improving the future. It is a creative process, based on building ideas." -Herbert A. Simon

Course goals

- Understanding 'Design Thinking' centered on professional industrial design
- Understanding the value and necessity of 'Design Thinking'
- Understanding 'Design Thinking' as a significant method for discovering innovation
- Understanding 'Business Design' through case studies
- Learning systematic development methods for finding outcomes of 'Innovative Design'

Reference

- Daniel H. Pink. A whole new mind. First River head trade paperback edition: March 2006.
- Roger L. Martin. Design of business: why design thinking is the next competitive advantage. October 13, 2009.
- Tim Brown. Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation, September 29, 2009



Learning Guideline

This class is a major elective course and primarily intended for Industrial Design Junior students. Students will learn the design processes by developing innovative design concepts under a given subject. An instructor will provide a subject on the first day of classes.

Studying Contents per Week

wk	Topics	Contents	Reference
1	Introduction to the course		
2	ID history, the early 1900s	Craft-centered, industrial design as a support role for the mass production	Fibonacci Sequence (Designing for People)
3	ID history, the mid 1900s	ID as a business element Introduction of ergonomics research to the ID	Form follows emotion beautiful users
4	ID history, the late 1900s Late 20th century – beginning of the 21st century:	The era of design consulting Importance of the collaboration and convergence	Creative confidence A whole new mind
5	ID history, the early 2000s – current	ID as a core of the business	ID as a core of the business
6	Definition of 'Design Thinking'	Understanding difference between Herbert A. Simon and Tim Brown	Harvard Business Review
7	Meaning of 'Design Process'	Understanding of Diverge and Converge	Design for Public Good, Design, Council, 2013
8	Mid-term break		
9	Project introduction	Kick-off a project	
10	Research: Macro research and Popular media	Create 'Perspective of view'	The basics of user experience design
11	Ideation: Building empathy with analogies	Story share and capture	The basics of user experience design
12	Ideation: Brainstorming processes	Create 'How might we' questions	The basics of user experience design
13	Define: Create concepts and scenarios	Create 'Affinity diagrams'	The basics of user experience design
14	Design: Finalization	Visualize chosen concept and information	
15	Final presentation and critic	Presentation	
16	Design on Thursday(DOT)		

Assignments

Field research & Workshop Creative workshop

This course has had success with class projects focusing on 'Disruptive and innovative concept development' previously, for example the subject from the previous project; 'The Woolmark performance challenge, presented by the Woolmark company and Adidas'. This competition is an annual product innovation competition open to select school students.

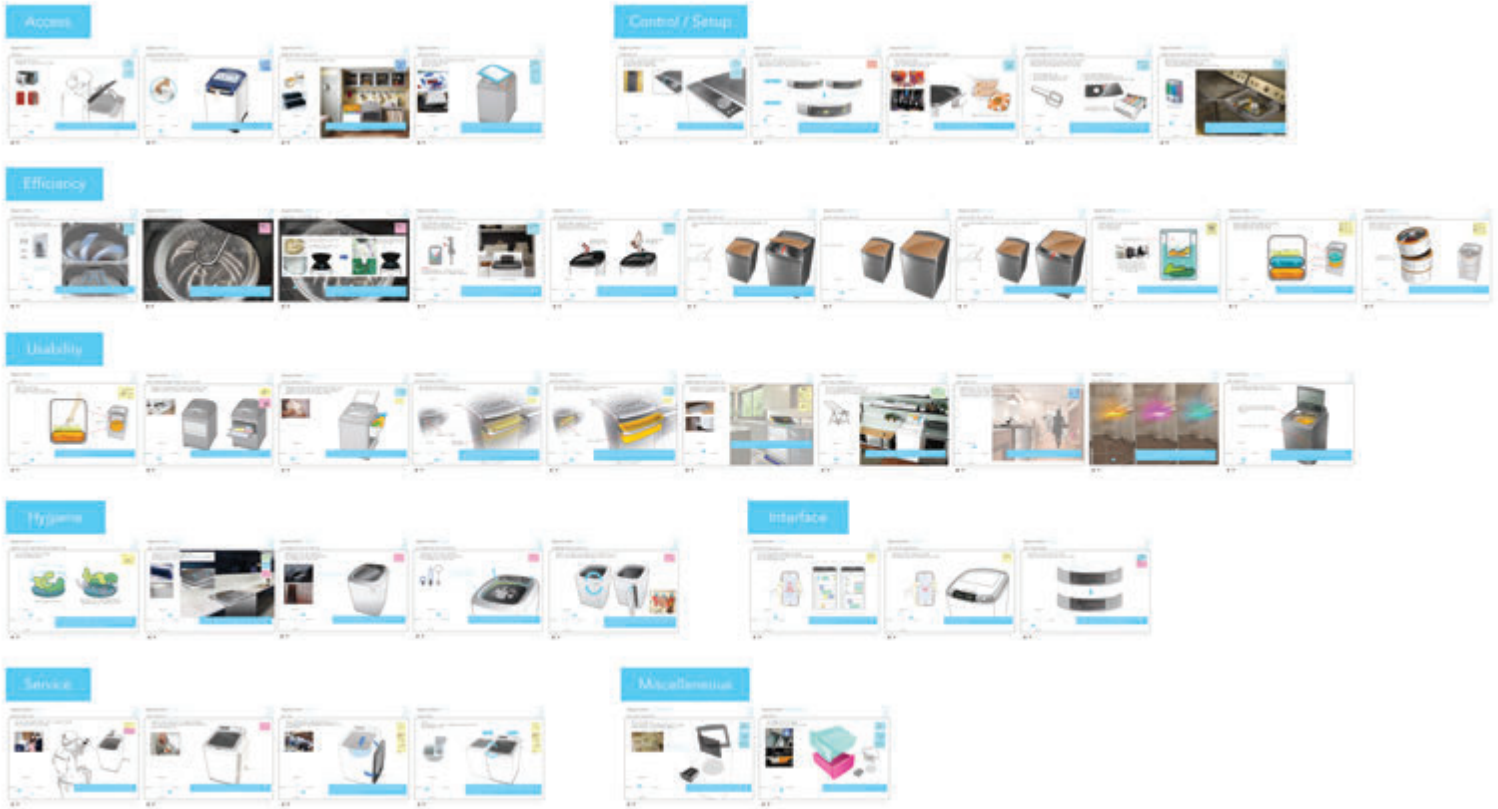


Discover
Conducting an Interview with Empathy.

Ideation
Building Empathy with Analogies

Define
Analyze with Affinity diagrams

Design thinking is the fundamental mindset of the creative design phase. Creative designers need to understand the value of design thinking, the meaning of innovation, and the ways of business design.



Interface Design

ARDE323

Course Outline

This class is about studying the design theory and technique practice required for interface design and evaluation. Students are expected to study the logic and elements of interface design through the users centered design approaches ; research, user test, interface design, UI/ GUI / PUI development, contextual modeling and prototyping.

Course Objective

- Understanding user research, system analysis and task designing process.
- Interface design method, tools appropriate for each step of design development.
- Creation of new UX design concept by utilizing taught knowledge structure.

Textbook, Material

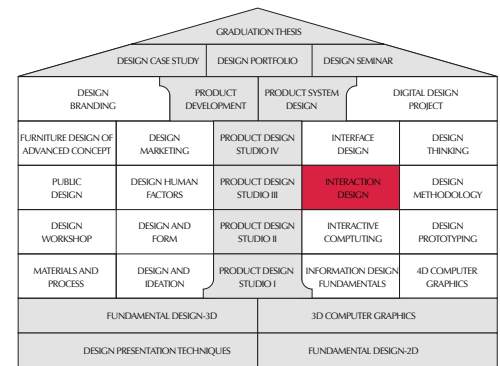
- Cooper, A., About Face : The Essentials of Interaction Design, Wiley, 2014,
- Saffer, D., Micro Interactions, O'reilly, 2014
- Pannafino, J., Interdisciplinary Interaction Design, 2012

Sub Text

- Tidwell, J., Designing Interfaces-2ndedition, , O'reilly, 2010
- Levin, M., Designing Multi-Device Experience, O'Reilly, 2014
- Tullis, T., Albert, W. Measuring the User Experience, Morgan Kaufmann, 2008
- 톰톨리스, 빌알버트 저, 김소영 역, 사용자 경험 측정, 지앤선, 2008
- Krug, S., Don't make me think(3rdEdition),New Riders Press, 2014
- 스티브 크룩 저, 김지선 역, 상식이 통하는웹사이트가 성공한다, 대웅출판사, 2006

Reference

- 김진우, Human Computer Interaction 개론, 2012
- Raskin, J., The Humane Interface, Addison-Wesley, 2000
- 제프 래스킨, 이건표 역, 인간중심 인터페이스, 안그래픽스, 2003.
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- Nielsen, J., Usability Engineering, AP Professional, 1993
- Nielsen, J., Budiu, R., Mobile Usability, New Riders, 2013
- Bergman, E., Information Appliances and Beyond, Morgan Kaufmann, 2000
- 에릭버그먼 저, 정선화 외 역, 포스트 피씨 시대의 정보기기 디자인, 안그래픽스, 2001
- K.T.Ulrich : Product Design and Development, John Wiley & Sons, 1995
- Wickens, C.,Engineering Psychology and Human Performance(3rdedition),PrenticeHall,1999
- 크리스토퍼 위킨스 외 저, 광호완 외 역, 공학심리학, 시그마프레스, 2003



Learning Guideline

More information for this class : <http://coux-lab.net/lectures>

Recommended pre-requisite

- Information Design Fundamentals
- 4D Graphics
- Design Methodology
- Computer Graphics Basic

Articles

- Design Management Journal
- Harvard Business Review
- Materials and Articles (will be distributed in class.)

Reference

- Baxter, M., Product Design, Chapman & Hall, 1995
- Eekels, J., Product Design: Fundamentals and Methods, John Wiley & Sons, 1995
- Nielsen, J., Designing Web Usability, Peachpit Press, 1999
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- Moggridge, B., Designing Interactions, The MIT Press, 2007
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- Holtzblatt, K., Wendell, J.B., Wood, S., Rapid Contextual Design, Morgan Kauffmann, 2004
- 캐런 홀츠블랫, 제서민 번스원들, 셸리우드 저, 팀인터페이스 역, 컨텍스트를 생각하는 디자인, 인사이트, 2008
- 오병근, 강성중, 정보디자인교과서, 안그래픽스, 2008

Evaluation

Assignment: 20%, (Seminar and Practice) / Assignments & Mid Term Project: 20% / Final Term Project: 50% / Attitude & Attendance: 10%

Final Term Project

1. Analysis: Product or service should be analyzed and organized as a report form.
2. Expert Review & User Research: All report should include both of expert and user research.
3. Usability Test: Usability test of product should be the earlier part of the design process.
4. Interface Design: Problem definition, finding and solution generation.
5. Design Prototype: Design should be rendered and implemented in interactive prototype.
6. Final Deliverables: Research report, Design, Interactive Prototype, Scenario, Panel and Presentation.

Mid Term Project

1. Students will take weekly assignments & a mid-term project development on UI design.
2. Small sized application design, service design with high fidelity UI wireframe / GUI creation will be expected as a deliverable.

Seminar

1. Two teams will present their given chapter for 15 minutes (30 min. for 2 teams) in each class.
2. Students should set the team and define the design template.

Attitude & Attendance

1. Students' unnoticed absence of 5 times will be regarded as Failure of the class.
2. Students' attendance later than 20 minutes after class start will be regarded 0.5 of absence.

Studying Contents per Week

wk	Topics	Contents	Assignments
1	Course Introduction Intro : Interface Design 101	Interface Design Overview Reference & Textbook Review	Seminar / Contact Point Reference Split
2	Interface Design Process Process of Interface Design	User Centered Design Creativity & Systematic Process User Needs Assessment	Market Research Product & Market Trend
3	User Research User Segmentation/ Modeling	Cognitive Aspects of Users Benchmark Tools & Sites for User Seg.	Selection of an interested product / Analysis Design Case Report
4	UI Design Evaluation Method Design Evaluation	Heuristic Evaluation / Check List Cognitive Walkthrough Tools & Sites for User Needs Analysis	Product Analysis
5	UI Design Evaluation Method Design Evaluation	User Test Ethnography / Observation Interview & Survey	User Survey / Street Interview User Observation
6	Elements of Interface Design 1 Implementation Methodology Cutting Edge UI Prototyping Tools	Interface Design Process GUI : Visual Design Generation Sketch / Invision / Principle	Design Practice 01 Announcement for Midterm Prj.
7	Elements of Interface Design 2 Implementation Methodology Cutting Edge UI Prototyping Tools	User Scenario Generation GUI : Visual Design Generation Tools for Scenario Generation	
8	Midterm Project Presentation		
9	Design & Concept Generation 1 Concept Generation	Environment / Objective Interaction Elements Clipping / Diagram / Check List	Term Project Team Set Up User Scenario Design N-Screen Convergence
10	Design & Concept Generation 2 Design Architecture	Product Function / Feature Selection Card Sorting/ Cognitive Walkthrough Information Architecture	Term Project Set Up Project Topic Card Sorting Practice Function Structure Analysis
11	Design & Concept Generation 3 Design Development	Visual / Auditory Design Design Guideline & Principals	Term Project Team Set Up
12	Term project 1 Detailed Design Implementation	Individual Critics Group Discussion	Term Project
13	Term project 2 Detailed Design Implementation	Individual Critics Group Discussion	Term Project
14	Term project 3 Detailed Design Implementation	Individual Critics Group Discussion	Term Project
15	Term project 4 Detailed Design Implementation	Individual Critics Group Discussion	Term Project
16	Final Presentation	Final Presentation	Design Practice 02 (Working Prototype / Presentation / Report / CD)

Assignments



Megabox UI Redesign Project



Melon Redesign Project



INTERACTION DESIGN

ARDE324

Course Outline

Prototyping is a very important part of the interaction design process. As a attribute of time-experience interaction, prototyping, experiencing and verifying the designed interaction is essential in designing it as a good interaction. Recently, growth in open-source communities has made it easier to offer innovative interaction designs and experience them more vividly by using a viable prototype that is more accessible. In this lesson, you will learn how interactive designs can maximize human experience, from an essential understanding to actual implementation through experimental and experimental methods. This class focuses on Aduino, an open-source microcontroller, and conducts a project to demonstrate a new interaction design concept by learning techniques that facilitate electronic and mechanical movements. The results are displayed in DOT.

Course Project (Team & Individual)

TERM Project (the topic will be published later)

- Create prototypes with output (LED, motion, etc.) + input (sensor)
- Manufactured design results must be displayed on DOT
- Exhibition panels: concept, circuit/code, movement, modeling, interaction, prototype photography&description, etc. (A0 1/2)

Evaluation & Grading

Project 90% (experience 30% and end of term 60%), Attitude 10%

Textbook

About Aduino books

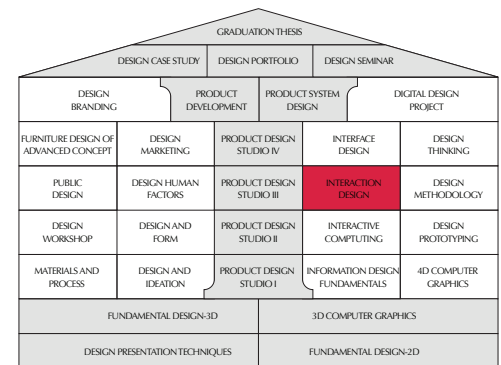
- Massimo Benzi 저, 이호민 역, 손에 잡히는 아두이노, 인사이트, 2010
- 고바야시 시게루 저, 서효정 역, 신나는 프로토타이핑(Prototyping Lab), 인사이트, 2012
- Charlse Platt 저, 김현규 역, 짜릿짜릿 전자회로 DIY, 인사이트, 2012
- 테로 카르비넨 등 저, 남기혁, 지영민 역, Make: 센서, 한빛미디어, 2015
- 찰스 플랫 저, 배지은 역, 전자부품 백과사전 Vol.1 Vol.2, 한빛미디어, 2015
- Dan O'Sullivan & Tom Igoe 저, 서동수 역, 피지컬 컴퓨팅, 지구문화사, 2008

About Aduino sites

- Arduino.cc : arduino 프로그램 다운로드, 매뉴얼, 예제, playground, 커뮤니티 등
- Instructables.com, sparkfun.com, makezine.com, kocoafab.cc 등 프로토타이핑 관련 사이트 참고

About Physical movement

- Bill Buxton, 고태호, 유지선 역, 사용자경험스케치, 인사이트, 2010
- Todd Zaki Warfel, 이예나, 이재명 역, 프로토타이핑, 인사이트, 2011



Learning Guideline

Flipped Learning: Aduino Practice

- Utilize the distributed Aduino lab package to advance to Youtube lab video (<https://goo.gl/Gh6BLW> or "Aduino Labs for Interaction Design Prototyping")
- Individual weekly lab ranges are studied and produced during the following week's lab hours
- Each week's challenges are reflected in the assessment

Studying Contents per Week

wk	Topics	Contents	Assignments
1	Introduction	Concept of interaction design and beautiful interaction Interaction narratives and performances Introduction to lectures, schedules, evaluations, tasks, etc.	
2	Prototyping Practice 1	Getting Started with Aduino Turn the LED on and off	1. Getting Started 2. Turn the LED on and off 3. Turn multiple LEDs on and off
3	Prototyping Practice 2	Light handling using LEDs	4. Turn it on smoothly 5. Creating different colors 6. Very large number of LEDs on
4	Prototyping Practice 3	External input and sensing 1	7. Turning on LED with Switch 9. Detect press force 10. Detect the intensity of light.
5	Prototyping Practice 4	External input and sensing 2	12. Adjust by distance 1 13. Adjust by distance 2
6	Prototyping Practice 5	Other LEDs	Additional example
7	Prototyping Practice 6	Control with your smartphone Presentation the topic of the Term project	Additional example
8	Mid-term		
9	TERM Project 1 : Concept & Sketch	Presentation of individual concepts (multiple) Inspiration data, stories and scenarios. Visuals such as sketches	Personal presentation
10	TERM Project 2 : Concept revised	Improved and finalised concepts Check the collection of required parts, libraries, etc.	Parts, libraries
11	TERM Project 3 : Test prototype	Complete preparation of required parts Test by dividing the basic circuits required for the project. Circuit integration and coding testing	
12	TERM Project 4 : Soft prototype	Circuit development and coding workshops	Circuit, Code
13	TERM Project 5 : Hard prototype	Frame, part design and modeling circuits development and coding workshops	Modeling, printing
14	TERM Project 6 : Combination	Print and assembly testing	Hardware
15	TERM Project 7 : Detail	Final checks and improvement	Hard+soft integration
16	Design on Thursday(DOT)		

Public Design

ARDE327

Course Description

Public Design Project

A Design Studio Class for creating concepts and specifications that optimize the function, value, and appearance of **street furniture and outdoor structure in public space** such as street, plaza, & park.

Design Studio

Provides an introduction to practice of industrial design for products for public space, focusing on the process itself. Students learn how to identify a problem and list criteria for an effective solution; to present market summaries detailing target people of street furniture; to produce complete designs that follow the creative problem-solving process; and to conduct a clear presentation of the design and final model (small scale).

Design Process

Explores design methods and creative strategies for product design. Work proceeds through problem identification and preparation, analysis, ideation (with focus on modes of visual thinking, effective expression), solution development, verification, and effective communication. Human factors, functionality, appearance, and production feasibility are considered.

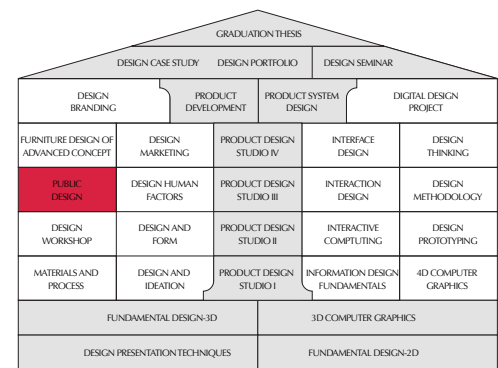
Visual Communication

The project ideas are sketched on paper and translated into sketch models and finished models in scale. Fabrication materials and process are discussed and reflected in three-dimensional models. Sketch techniques of space are studied.

Design Projects

TBD(To Be Determined)

A Project for spring semester of 2016 will be announced on the first week.



Learning Guideline

This course will be strongly recommended to only Industrial Design Major Students. The Specific Class Schedule will be announced on the first day of this class.

Course Regulation

Attendance

It is expected that each individual attends every scheduled class during the semester. Absences will impact your grade. Four absences or three straight absence are grounds for a failing grade. The only allowable exception is an excused absence.

Excused Absence

It is expected that each individual attends every scheduled class during the semester. Absences will impact your grade. Four absences or three straight absence are grounds for a failing grade. The only allowable exception is an excused absence.

Tardiness

You are expected to be in the classroom ready to participate by the time class is scheduled to begin. Occasional tardiness (Max.15 minutes, Max.3 times over the course of the semester) will be tolerated without impacting your grade.

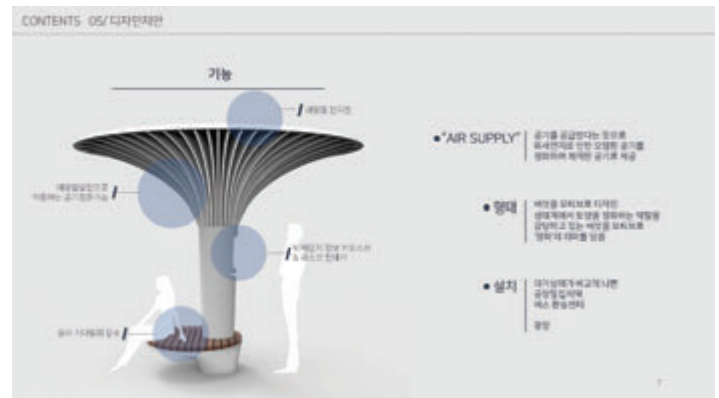
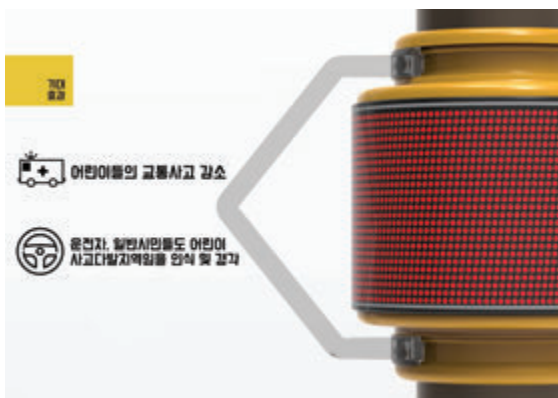
Assignments

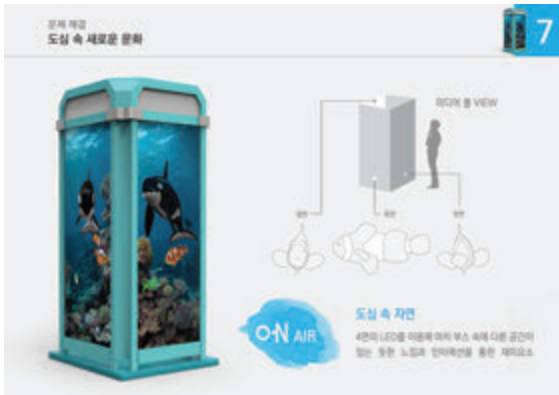
Each assignment will have a clearly defined deadline. If an assignment is not completed on time, it will impact the grade received.

Class Etiquette

Never touch another person's work without permission. Do not use another person's tools without permission. Give some help when needed.
No smoking! No mobile phones! No food & drinks!

Assignments





Furniture Design of Advanced Concept

ARDE330

Course Outline

This course is to study a new way of living suited in digital age, by breaking away from the passive living behavior in the past. Also, it defines and proposes psychological and physical qualifications of furniture for the newly studied living scenario.

Course Objective

This curriculum is to study the evolution of living behavior and to define furniture and living space based upon inherent psychological and physical factors. In addition, it is to study a scenario to project the future needs, such as a new living space reflecting on household/ demographic structure changed in the digital age, and to learn a design process to give shape to the scenario.

1. to criticize the current living patterns that has been evolved and customized to human psychological and social needs.
2. to break away from the concept of furniture as functional tool and the concept of living space as protection setting.
3. and to propose furniture and living system, based upon the living scenario newly conceptualized for the digital age.

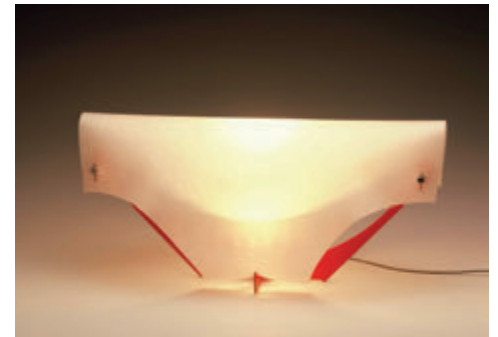
Evaluation

- Midterm assignment evaluation: 20%
- Final project evaluation: 40%
- Participation & attitude: 20%
- Attendance: 20%

GRADUATION THESIS				
DESIGN CASE STUDY		DESIGN PORTFOLIO		DESIGN SEMINAR
DESIGN BRANDING	PRODUCT DEVELOPMENT	PRODUCT SYSTEM DESIGN	DIGITAL DESIGN PROJECT	
FURNITURE DESIGN OF ADVANCED CONCEPT	DESIGN MARKETING	PRODUCT DESIGN STUDIO IV	INTERFACE DESIGN	DESIGN THINKING
PUBLIC DESIGN	DESIGN HUMAN FACTORS	PRODUCT DESIGN STUDIO III	INTERACTION DESIGN	DESIGN METHODOLOGY
DESIGN WORKSHOP	DESIGN AND FORM	PRODUCT DESIGN STUDIO II	INTERACTIVE COMPUTING	DESIGN PROTOTYPING
MATERIALS AND PROCESS	DESIGN AND IDEATION	PRODUCT DESIGN STUDIO I	INFORMATION DESIGN FUNDAMENTALS	4D COMPUTER GRAPHICS
FUNDAMENTAL DESIGN-3D			3D COMPUTER GRAPHICS	
DESIGN PRESENTATION TECHNIQUES			FUNDAMENTAL DESIGN-2D	

Learning Guideline

This class places emphasis on the cultural role of industrial design. Students learn advanced concepts in furniture design and cultural effects of furniture.



Studying Contents per Week

wk	Topics	Assignments
1	Orientation on the course / Organization of study teams Understanding (1) of living space	Team assignment #1 : Case study of the current living space researching on living behaviors and lifestyle trend
2	Presentation & discussion on team assignment #1 Understanding (2) of living space	Team assignment #2 : Researching and projecting on changes in living-related technology & changes in living culture
3	Presentation & discussion on team assignment #2 (sharing assignment materials) Understanding living-related information	Team assignment #3 : Developing living scenario based on the factors analyzed in team assignment #1 and #2 / creating Persona
4	Presentation & discussion on team assignment #3 Understanding the factors of changes in living behaviors	Team assignment #4 : Researching on leading furniture companies
5	Presentation & discussion on team assignment #4 (sharing assignment materials) Understanding of furniture (functional elements and emotional factors)	Team assignment #5 : Researching on design item and direction by scenario type
6	Presentation & discussion on team assignment #5 Understanding the requirements in design	Team assignment #6 : Developing design requirements + establishing reference design images
7	Presentation & discussion on team assignment #6 Researching references of interior design	Team assignment #7 : Mid-term report (epitomizing assignment #1, 2, 3, 5, 6 / #4 separately attached)
8	Mid-term evaluation Mid-term report (assignment #7) submission	
9	Fixing individual project (2-member team) Deciding on design concept Studio Kick-off	Individual assignment #1 : Visualization #1 / Thumbnail sketch
10	Presentation & discussion on individual assignment #1 Design ideation #1	Individual assignment #2 : Visualization #2 / Thumbnail sketch
11	Presentation & discussion on individual assignment #2 Design ideation #2	Individual assignment #3 : Visualization #3 / Lay-out drawing
12	Presentation & discussion on individual assignment #3 Critic #1	Individual assignment #4 : Visualization #4 / Detail study
13	Presentation & discussion on individual assignment #4 Critic #2	Individual assignment #5 : Modeling
14	Presentation & discussion on individual assignment #5 Critic #3	Individual assignment #6 : Rendering
15	Presentation & discussion on individual assignment #6 Critic #4	Individual assignment #7 : Integrated report
16	Final evaluation (collective evaluation on individual & team assignment) Evaluation on the accomplishment of 1) creativeness, 2) formativeness, and 3) functionality	

Assignments

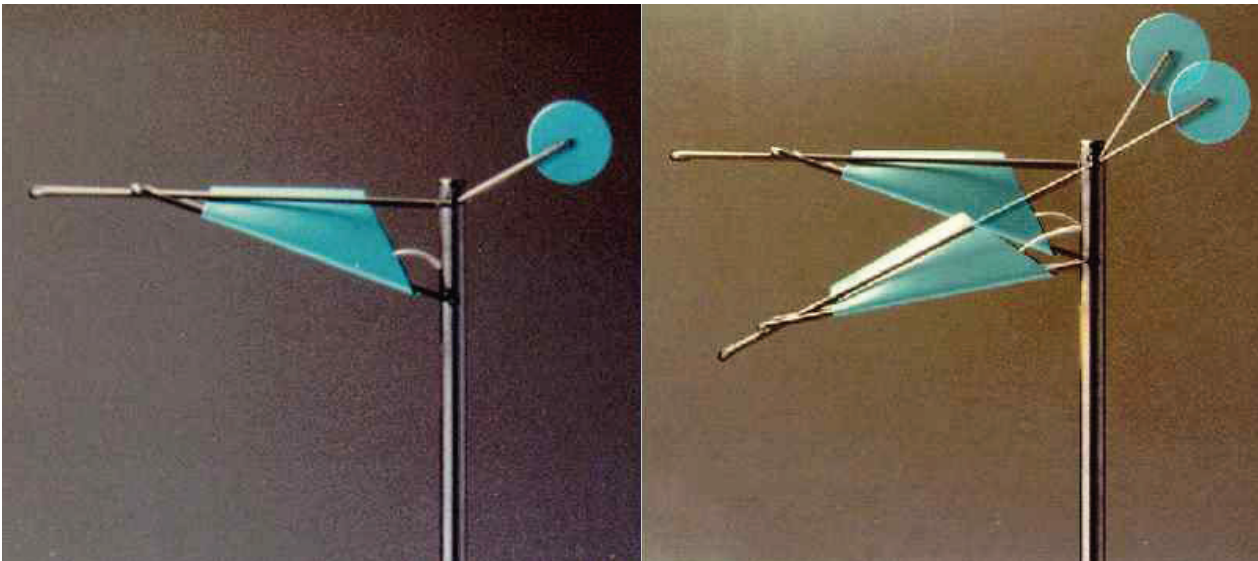
RECLINING ARMCHAIR



WASHSTAND



FLOOR LAMP (WITH ADJUSTABLE BALANCED HEAD)



Design Methodology

ARDE332

Course Outline

The course is about learning and practicing the systematic design methods. Students are expected to study and practice the logical approaches for design problem solving through text book review, participatory workshop and final term project of design issues.

Course Objective

Adaptation of systematic design approaches for successful design innovation.
Learning fundamental principal, goal and theory of design process and methodologies.
Understanding user research, system analysis. Generation of design project solution based on the learned methods and process.

Textbook, Material

Main Text

- Martin, B., Hanington, B., Universal Method of Design, Rockport Publishers, 2012
- Stickdorn, M., Schneider, J., This is service design thinking, BIS Publishers, 2010
- Clark, T., O, Osterwalder,A., Pigneur, Y., Business Model You, John Wiley, 2012

Sub Text

- Liedtka, J., Ogilvie, T., Designing for Growth, Columbia Business School, 2011
- O’Grady, J., O’Grady, K., A designer’s research manual, Rockport Publishers, 2009
- Hurff,S., Designing Products People Love, 2016

Reference

- Norman, Donald A., The Design of Everyday Things, Doubleday Currency, New York,1988
- Raskin, J., The Humane Interface, Addison-Wesley, 2000
- 제프 래스킨, 이진표 역, 인간중심 인터페이스, 안그라픽스, 2003.
- Nielsen, J. , Usability Engineering, AP Professional, 1993
- Bergman, E., Information Appliances and Beyond, Morgan Kaufmann, 2000
- 에릭버그먼 저, 정선화 외 역, 포스트 피씨 시대의 정보기기 디자인, 안그라픽스, 2001
- Krug, S., Don’t make me think, New Riders Press, 2005
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- Wickens, C.,Engineering Psychology and Human Performance(3rdedition),PrenticeHall,1999
- 크리스토퍼 위킨스 외 저, 광호완 외 역, 공학심리학, 시그마프레스, 2003
- Baxter, M., Product Design, Chapman & Hall, 1995

GRADUATION THESIS				
DESIGN CASE STUDY		DESIGN PORTFOLIO		DESIGN SEMINAR
DESIGN BRANDING		PRODUCT DEVELOPMENT		DIGITAL DESIGN PROJECT
FURNITURE DESIGN OF ADVANCED CONCEPT	DESIGN MARKETING	PRODUCT DESIGN STUDIO IV	INTERFACE DESIGN	DESIGN THINKING
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MATERIALS AND PROCESS	DESIGN AND IDEATION	PRODUCT DESIGN STUDIO I	INFORMATION DESIGN FUNDAMENTALS	4D COMPUTER GRAPHICS
FUNDAMENTAL DESIGN-3D			3D COMPUTER GRAPHICS	
DESIGN PRESENTATION TECHNIQUES			FUNDAMENTAL DESIGN-2D	

Learning Guideline

More information for this class :

<http://couxlab.net/design-methodology-2015-ko-re-a-university-2/>

Term project example :

https://www.youtube.com/channel/UC4X6zZY50M-pIOiHRK9WQHhg?view_as=subscriber

Reference

- Eekels, J., Product Design: Fundamentals and Methods, John Wiley & Sons, 1995
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- Tullis, T., Albert, W. Measuring the User Experience, Morgan Kaufmann, 2008
- 톰툴리스, 빌알버트 저, 김소영 역, 사용자 경험 측정, 지앤선, 2008
- Holtzblatt, K., Wendell, J.B., Wood, S., Rapid Contextual Design, Morgan Kauffmann, 2004
- 캐런 홀츠블랫, 제서민 번스원들, 쉐리우드 저, 팀인터페이스 역, 컨텍스트를 생각하는 디자인, 인사이트, 2008
- 오병근, 강성중, 정보디자인교과서, 안그래픽스, 2008
- 임연용, 디자인방법론 연구, 미진사, 1992

Evaluation

- Mid Term Project: 20% / Assignment: 20%, (Seminar and Practice) / Term Project: 50% / Attitude & Attendance: 10%

Term Project

- Topic : Design Methods for Creative Design Innovation - Service Design Project Starts from 4th week of the course.
- 1. Idea Generation : Concept hunting, Journey mapping, Brainstorming
- 2. Problem Definition : Product or service should be analyzed and organized in a systematic procedure.
- 3. Planning : Gant Chart, Pert, Delta, Projects,
- 4. Analysis & Research: All report should include both of expert and user research..
- 5. Basic Market Research : Mass Sized / Focused Preference test for design solution.
- 6. Design Solution: Problem definition, finding and solution generation.
- 7. Design Evaluation: Design should be rendered and implemented in interactive prototype.
- 8. Final Deliverables: Research report, Design, Panel and Presentation.

Mid Term Exam

1. Students will take a mid-term exam on theory and knowledge of design methodologies.
2. Exam will be taken with open book format.

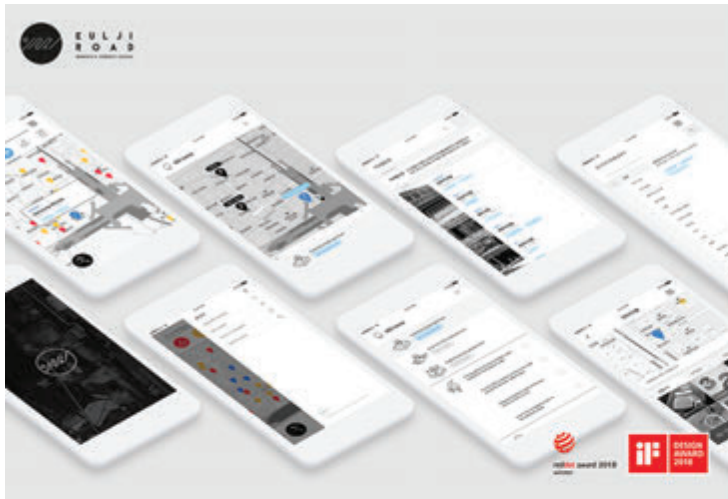
Seminar

1. Students will be required to take part of text book seminar in the class.
2. Two teams will present their given chapter for 15 minutes (30 min. for 2 teams) in each class.
3. Students should set the team and define the design template for seminar.

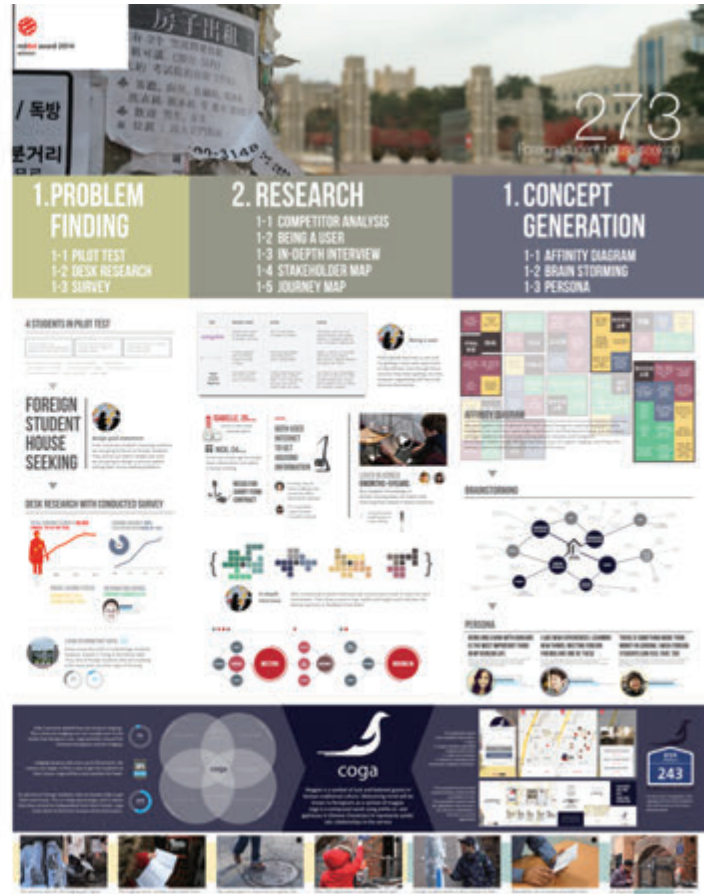
Studying Contents per Week

wk	Stages	Topics	Contents	Assignments
1	Overview	Course Introduction Intro :Needs for Design Method		Seminar / Contact Point Reference Split
2	Process	Design Process Process of Design		Process Suggestion with Given Design Problem Design Topic Selection
3	Planning	Design Project Management Scheduling / R &R Definition	Pert /Projects Gant Chart / Delta Chart	Design Topic Selection Scheduling Design Brief Creation
4	Problem Definition	Understanding the Goal of Design User Needs Assessment	Constraints KPI	Topic Selection Design Brief Creation
5	Concept Generation	Divergent Concept Finding Heuristic	Idea Generation / Brain Storming, Check List Morphological Analysis	Concept Finding Morphological
6	Concept Generation	Divergent Concept Finding 2 Systematic Tools	Matrix / Clustering Correlation Analysis, KJ Map	Design Elements Matrix Clustering
7	Analysis	Market Research	Activity Model Era Analysis Market Segmentation Questionnaire – Likert	Market Research for Individual's Design Topic Area
8	Analysis	Midterm Exam		Mid Exam
9	Analysis	Market Research	SWOT Multi Dimensional Scaling Product Lifecycle	Target User : Segmentation Target Opportunity Strategic Road map
10	Analysis	User Research	Life Style Focus Group Interview Town watching Tracing / Shadowing Ethnography	Project Topic Card Sorting Practice Function Structure Analysis
11	Design Solution	Design Solution Making Design Development	Flow chart Activity Analysis Matrix	Design Solution Creation Iterative Design Process
12	Design Solution	Design Evaluation Method Design Evaluation	Physical : Structuring Logical : USP	Design Solution Creation Create Individual's Own Design
13	Design Evaluation	Quantitative Evaluation Design Evaluation	Design of Experiments Evaluation Scale ANOVA	Evaluation of Design Finalize the design
14	Design Evaluation	Quantitative Evaluation Design Evaluation	Semantic Map Ranking Matrix Alpha-Beta Net (Weight)	Evaluation of Design ANOVA Test
15	Final Presentation	Term project Detailed Design Implementation		Term Project

Assignments



Eulji Road Maker's Street Seoul



Foreign Student House Seeking

Digital Design Project

ARDE414

Course Outline

[Digital Design Project] hosts a project to find and solve social and cultural problems in this age when digital and analog, non-material and material, and human technology are combined. Subjects can be freely chosen based on the characteristics of the digital world, and their solutions and processes also can be freely selected. The themes include social problems, environmental problems, communication problems, the gap between the rich and the poor, the generation conflict, discrimination, and everyday problems. Students practice to observe it from their own perspectives and solve it through the methodology they set up. Through these projects, they experience a self-directed problem-solving process for the present and future society.

Course Objective

[Digital Design Project] is a project that understands the basic characteristics of digital technology and tries to solve real-world problems. The course aims to solve real-world problems in practice, experience the creative process of solving problems through self-initiative eyes and actions, and discover the problems they see only themselves. Through the project, students experience a convergence of digital and analog, non-material and material solutions, and human and technology.

Reference

- 레프 마노비치. (2004). 뉴미디어의 언어, 생각의 나무
- 앤서디 던. (2002). 헤르츠 이야기 - 탈물질시대의 비평적 디자인, 시지락
- 국립현대미술관. (2015). 사물학 II : 제작자들의 도시, 국립현대미술관
- 한국공예디자인문화진흥원. (2012). 인생사용법. 한국공예디자인문화진흥원
- 강수미 외. (2018). 커넥트. 아트선재센터

GRADUATION THESIS				
DESIGN CASE STUDY		DESIGN PORTFOLIO	DESIGN SEMINAR	
DESIGN BRANDING		PRODUCT DEVELOPMENT	PRODUCT SYSTEM DESIGN	DIGITAL DESIGN PROJECT
FURNITURE DESIGN OF ADVANCED CONCEPT	DESIGN MARKETING	PRODUCT DESIGN STUDIO IV	INTERFACE DESIGN	DESIGN THINKING
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FUNDAMENTAL DESIGN-3D			3D COMPUTER GRAPHICS	
DESIGN PRESENTATION TECHNIQUES			FUNDAMENTAL DESIGN-2D	

Course Guideline

Course progress consists the preparation before class, things to do in class, assignment and advising after class. Class is not conducted only in class time. Professor help students' development fully.

Studying Contents per Week

wk	Topics	Contents	Assignments
1	Course Introduction	Goal, Overview lecture, Grading and Evaluation Assignment Explanation	Team & Individual Setup Find and Research Problems
2	Social Problems	Design as Problem Solving of Society	Find and Research Problems
3	Finding Social Problems	Cases of Problem Solving	Define Social Problem
4	Observation and Inspiration	Observation in Field	Field Research
5	Interim Presentation	Group Feedback	Field Research
6	Observation and Inspiration	Design Concept and Direction Feedback	Field Research
7	Observation and Inspiration	Design Concept and Direction Feedback	Design Planning
8	Mid-term Break		
9	Design Planning & Feedback	Personal Feedback	Design Implementation
10	Design Planning & Feedback	Personal Feedback	Design Implementation
11	Design Planning & Feedback	Personal Feedback	Design Implementation
12	Interim Presentation	Group Feedback	Design Implementation
13	Design Action and Development	Personal Feedback	Design Implementation
14	Design Action and Development	Personal Feedback	Design Implementation
15	Design Action and Development	Personal Feedback	Final Presentation
16	Epilogue		

Product System Design

ARDE415

Course Outline

This course is a convergence design studio class for the graduation exhibition. Students will be required to combine the product and UX design knowledge and skill learned through the prerequisite classes for the development of innovative and intelligent product system design. The scope of Product System defined in this class encompasses not just physical products but also the interface, service touch points and the use case scenario of users as well.

Course Objective

Students will proceed individual or small teamed physical or information product system design which adopt digital technology and user centered approaches. Design topics may comprise large spectrum of application, web, mobile device, home device and etc. It is highly expected for all students to keep all key steps of product design process.

- Seminar: Class will go through macro desk research and text review and share for market sensing.
- Practice/ Presentation: All taught design method should be clearly reflected onto actual design process.
- Term Project: Students will work as an individual. The whole course is expecting each student to deliver one perfection of research-design-prototype-presentation dynamics.

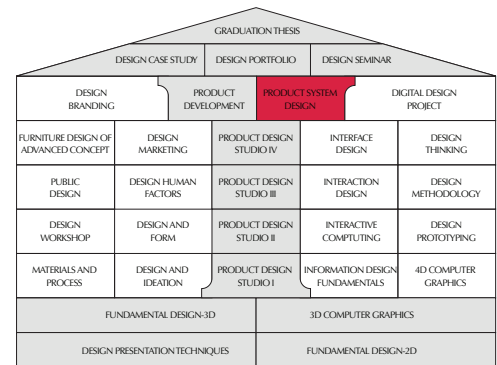
* The first three weeks will be dedicated for design case studies and workshop to elevate the trend sensing level of students. Students should prepare presentation with proffer material.

Textbook, Material

- Liedtka, J., Ogilvie, T., Designing for Growth, Columbia Business School, 2012
- Gothelf, J., Seiden, J., Lean UX : Applying Lean Principles To Improve User Experience, O'reily, 2013
- Osterwalder, A., Pigneur, Y., Business Model Generation, John Wiley & Sons, 2010

Articles

- Design Management Journal - Harvard Business Review Articles (will be distributed in class.)



Learning Guideline

PLEASE MAKE SURE THE FOLLOWING GUIDELINES.

This course is a CAPSTONE DESIGN class requiring implementation of final mockup and exhibition.
This course is a thesis course for senior grade students of School of Design, Korea University ONLY.
This course is designed NEITHER FOR exchange students NOR FOR non-design major students level.

Reference

- Raskin, J., The Humane Interface, Addison-Wesley, 2000
- Norman, Donald A., The Design of Everyday Things, Doubleday Currency, New York, 1988
- Baxter, M., Product Design, Chapman & Hall, 1995
- J.Nielsen , Usability Engineering, AP Professional, 1993
- Bergman, E., Information Appliances and Beyond, Morgan Kaufmann, 2000
- Krug, S., Don't make me think, New Riders Press, 2005
- K.T.Ulrich : Product Design and Development, John Wiley & Sons, 1995
- Eekels, J., Product Design: Fundamentals and Methods, John Wiley & Sons, 1995
- Nielsen, J., Designing Web Usability, Peachpit Press, 1999
- Wickens, C., Engineering Psychology and Human Performance(3rd edition), PrenticeHall, 1999
- V.Papanek , 인간을 위한 디자인 (Design for the real world), 미진사, 1983
- Carroll, J.M., Usability Engineering: Scenario-Based Design, John Wiley & Sons, 1995,
- Kelley, T., The Ten Faces of Innovation, Currency Doubleday, 2005
- Brown, T., Change by Design, Harper Business, 2009

Evaluation

Research Phase : 20% / Design Initiation, Seminar, Presentation : 20% / Term Project: 50% / Attitude & Attendance : 10%

Term Project

- Macro Research - Market Research for Value Proposition
- Micro User Research - User Interview / Analysis Data with Recorded Form
- Product Design (Rendering) + UX Design (UI + GUI Screen Flow) - Service or Application Concept : Interactive Prototyping
- Scenario Film
- Interactive Presentation Packing
- Panel Design
- Hardcopy of [1],[2],[3],[4],[6] (* [4] with condensed version)

Weekly Seminar & Presentation

It is required for each student to be prepared for 15min. presentation for every week about the progress for previous week.

Design Practice

Students should reflect the method/ process shared in the class onto their design deliverables.

All design topics, deliverables should clearly indicate the quality, contribution and credit of designer.

The design deliverables should follow a systematic design approach. The process is essence.

Studying Contents per Week

wk	Topics	Contents	Assignments
1	Course Introduction	Course Intro. Process of Design / Design Item Selection	Course Leader Team Setting for ideation in advance
2	Design Market Research	Next Device/ Convergence / Market Research Method & Examples	Design Discussion Individual Design Topics (if available)
3	Design Market Research Design Value Proposition	Design Topic Selection Information Clustering / Design Value Finding	Design Trend Catching & Ideation Workshop
4	Design Feature Analysis Micro Analysis	Design Topic Selection (*)	Design Discussion Design Ideation/ Method / Process
5	Design Feature Analysis Micro Analysis	Design Opportunity Creation	Design Analysis Report New Concept Generation
6	User Research Interview / Lap Test / Prototype Test	Interview/ Lap Test / Prototype Test Home Visiting	Design Research Team Activity Class should be prepared for ideation in advance.
7	User Research Interview/ Lap Test / Prototype Test	Comprehensive User Research Product Opportunity Finding	Phase 1 : Research Discussion Interim Report & Checkpoint Design Case Study
8	Persona / Scenario Development User Persona / Usecase	Packaging Strategy for ID + UX Design Creating User Level Micro Approach	Segmentation Selection User Persona Setting
9	Persona / Scenario Development User Persona / Usecase / Design Value Proposition	Priority Feature Definition Product (service) Concept Definition	Phase2 : User Scenario Discussion Interim Report & Checkpoint
10	UX Design Development Product Sketch / UX Wireframe	Product Design Development	Case Study Share Individual Research
11	UX Design Development Product Sketch / UX Wireframe Graphic Theme Board	Product Design Development	Case Study Share Individual Research
12	UX Design Development Product Sketch / UX Wireframe	ID Development Prototyping	Phase 3 : Design Development Interim Presentation
13	UX Design Development Design Draft / Revision	UX Hierarchy Lockdown Prototyping	Design & Prototyping
14	UX Design Development Interactive Prototyping	All students strongly required to complete the design selection on this week. Design Draft / Revision	Phase 4 : Design Prototyping Interim Presentation
15	Interactive Prototyping Design Modeling		Interim Check Final Group Check
16	Final Presentation	Final Presentation for each team	Panel / ID / UI Flow / GUI Screen Report / Interactive Prototype Presentation / Youtube

Assignments



HXD Project - Operation System Development in Hospital

Product Development

ARDE417

Course Outline

Combining theories and practices, this course supports the graduation level of design study for product development. It is a combined studio-based work and students will be provided with different topics and process every year. The class will introduce strategic design thinking associated with major contemporary issues on human society and complex systems in exploring and creating a new type of product and service.

Course Objective

The goal of this course is to learn and practice the comprehensive aspects in product design development in the modern interdisciplinary context.

- To learn about the convergent design process in developing a new category of products and services
- To understand the critical principles of design thinking in identifying and solving contemporary issues
- To practice various design methods and skills for the competitive design setting

Evaluation & Grading

While a term project itself is a major object of evaluation, in-class participation and attitude are also critical in individual grading. Final grading will be made based upon participation of class activities, research quality, and project outcomes and in order to maximize class learning process, peer evolution in each phase of presentations can be included.

- Term project: 90% (Research & Rationale 30%, Creativity & Aesthetics 30%, Degree of Completion 30%) - Attendance & Collaboration: 10%

Reference

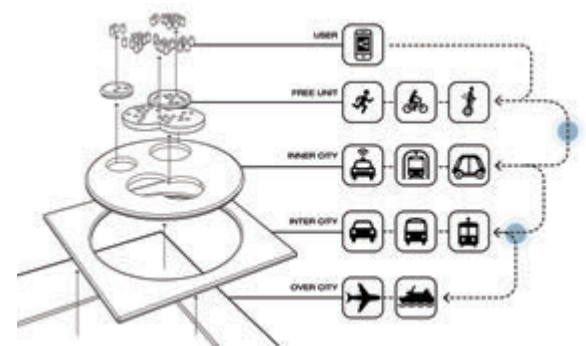
- 권영걸, 신문명디자인, 공간서가, 2016
- 메타트렌드연구소, 라이프 3.0, 한스미디어, 2012
- 스티븐 에모트, 100억명, 어느날, 시공사, 2014
- 조준동, 창의융합 프로젝트 아이디어북, 한빛아카데미, 2015
- 한국디자인진흥원, 4차 산업혁명의 스타트라인: 디자인트렌드 2017, 쌤앤파커스, 2016
- 한국디자인진흥원, 밀레니얼 세대의 노마드마켓: 디자인트렌드 2018, 쌤앤파커스, 2017
- Erwin, K., Communicating the New, Wiley, 2013
- Goodwin, K., Designing For the Digital Age, Wiley, 2009
- Kumar, V., 101 Design Methods, Wiley, 2012
- Olsen D., The Lean Product Playbook, Wiley, 2015
- Rowland, C., et al., Designing Connected Products, O'Reilly Media, 2015

GRADUATION THESIS				
DESIGN CASE STUDY		DESIGN PORTFOLIO		DESIGN SEMINAR
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DESIGN PRESENTATION TECHNIQUES			FUNDAMENTAL DESIGN-2D	

Learning Guideline

Since this course is one of the graduation exhibition courses in design, non-design majored students will NOT be allowed to take this course. Students must complete all the prerequisite courses in design major and should be qualified with a graduation level of design knowledge (e.g., design research methods) and practical skillsets (e.g., Rendering & 3D modeling) before enrolling in the class.

Learning Material



Studying Contents per Week

wk	Topic	Contents	Assignments
1	Course Introduction	Course Intro & Overview About Graduation Thesis Term Project Introduction	Team Setup & Book Study Macro Trend Research
2	Vision of the Futures	Designing the New What Futures, Why Design? Design Thinking & Research	Future Study Trend Research
3	Identifying Meanings	Starting with WHY: What is next? Sense Making Problem Finding & Opportunity Analysis	Defining Project Theme & Lifestyle Scenario Research
4	Inspiration & Incubation	Discovering New Opportunities Problem Space & Solution Space Concept Inspiration	Project Item selection
5	Interim Presentation (Cluster & Individual)	Trend & Opportunity Future Lifestyle Research & Project Item Q & A Sessions, Discussion	User Research (Survey, Interview, Observation)
6	Inspiration & Incubation	Defining User Scenarios Developing User Personas Building User Scenario & Concept	User Research (Survey, Interview, Observation)
7	Inspiration & Incubation	Product Concept Generation Value Proposition, Product Definition Designing User Experience	Concept Scenarios (ID/UX)
8	Midterm Review	Presentation : Products Concept Q & A Sessions, Group Discussion	Concept Scenarios (ID/UX)
9	Design Development & Review	Product Concept Development Product Concept Scenario, USP, MVP Ideation & Concept Design	Concept Scenarios (ID/UX)
10	Design Development & Review	Product/UX Design Development Form Factor, ID, UI Design Detail Concept Design	Rendering(ID/UX)
11	Design Development & Review	Product/SVC Design Development Form Factor, ID, SVC UX Design Detail Concept Design Functional Prototyping	Rendering(ID/UX)
12	Interim Presentation	Presentations: Product/UX Design Form Factor, ID, UI Design Detail Concept Design	Rendering(ID/UX) Prototyping
13	Design Development & Review	GUI, CMF Development Aesthetics, Visual Design, CMF, Branding Design Iteration & Refinement	Rendering(ID/UX) Scenario Movie
14	Design Development & Review	Design Refinement Individual Review & Critics (If needed)	Scenario Movie
15	Design Development & Review	Individual Check-up Final Individual Review & Critics	Final Presentation
16	Final Project Review	Final Presentation & Wrap-up Evaluation & Discussion	DOT Final Material Submission

Assignments



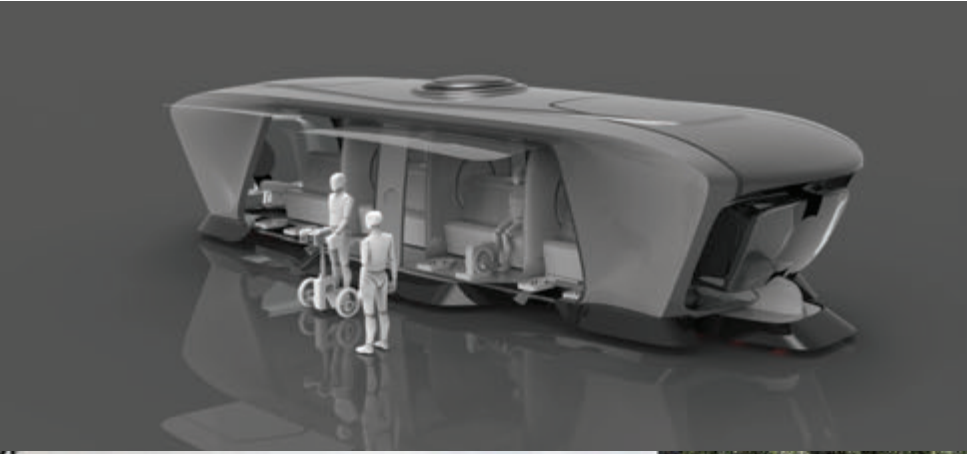
Mobility Embedded City project - Copenhagen city 2030

Scenario

The management system of urban transport was an area that was clearly divided into automobile-only roads, traffic zones, and most of the facilities were designed in that way. Over time, cars lost their market share in urban areas, and most cities in Europe began to exclude the development of car facilities and their mobility from the core of urban development. Most have been transformed into pedestrian areas and into bicycles and small, mobile-centric transportation systems.



Jo Junhum(11), 2017, Mobility Emdeded City Project - Copenhagen city 2030



Jo Junhum(11), 2017, Mobility Emdeded City Project - Copenhagen city 2030

Extension of mobility

This scenario starts in Scenario 1, but attempts to remove the intermediate step. A specific unit type vehicle may be designed to operate not only outside the core but also inside the core. This is closer to the most optimized solution given the ease of use of commercial services. Parks and driving zones may be reviewed and located, such as re-examining parking lots on the outskirts of cities. However, although the latter can be approached with two directions, the second direction in the implementation method may be less intuitive. An alternative can be proposed by combining two solutions. If the price side plays a decisive role, parking and the use of fares etc. can be differentiated

Graduation Thesis

ARDE416

Course Outline

This class is a joint team teaching class in conjunction with the “Product System Design” and “Product Development” classes for graduation exhibition. Students should deliver the final design outputs from two independent classes and prepare the exhibition. The quality and boundary of the outputs are decided dependant on the consultation from two professors.

- Team Teaching: Class consists of weekly peer check with two professors. Students are expected to arrange the teaching hour with professors on weekly interval.
- Practice/ Presentation: Students are expected to finalize and implement the physical mockup and interactive demonstration of two classes.
- Graduation Exhibition: The whole course is expecting each student to deliver one perfection of research-design-prototype-presentation dynamics and prepare the graduation exhibition.

Course Objective

Students will proceed individual or small teamed physical or smart product design which adopts digital technology and information as of extension from previous semester. Design topics may comprise large spectrum of application, web, mobile device, home device and etc. It is highly expected for all students to keep all key steps of product design process.

Reference

- Relevant design / tech articles

GRADUATION THESIS				
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FUNDAMENTAL DESIGN-3D			3D COMPUTER GRAPHICS	
DESIGN PRESENTATION TECHNIQUES			FUNDAMENTAL DESIGN-2D	

Learning Guideline

This course is a CAPSTONE DESIGN class requiring implementation of final mockup and exhibition. This course is a thesis course for senior grade students of School of Design, Korea University ONLY. This course is designed NEITHER FOR exchange students NOR FOR non-design major students level. Students are required to have finished prerequisite classes of Product Developments and Product System Design.

Recommended pre-requisite

Product System Design / Product Design
(Students who didn't pass either of those two classes in previous semester are not allowed to join this class and graduation is automatically suspended.)

Reference

- Raskin, J., The Humane Interface, Addison-Wesley, 2000
- Norman, Donald A., The Design of Everyday Things, Doubleday Currency, New York, 1988
- Baxter, M., Product Design, Chapman & Hall, 1995
- J.Nielsen, Usability Engineering, AP Professional, 1993
- Bergman, E., Information Appliances and Beyond, Morgan Kaufmann, 2000
- Krug, S., Don't make me think, New Riders Press, 2005
- K.T.Ulrich : Product Design and Development, John Wiley & Sons, 1995
- Eekels, J., Product Design: Fundamentals and Methods, John Wiley & Sons, 1995
- Nielsen, J., Designing Web Usability, Peachpit Press, 1999
- Wickens, C., Engineering Psychology and Human Performance(3rd edition), PrenticeHall, 1999
- V.Papanek, 인간을 위한 디자인 (Design for the real world), 미진사, 1983
- Carroll, J.M., Usability Engineering: Scenario-Based Design, John Wiley & Sons, 1995,
- Kelley, T., The Ten Faces of Innovation, Currency Doubleday, 2005
- Brown, T., Change by Design, Harper Business, 2009

Evaluation

- Product System Design: 50% / Product Development : 50%
 - Average score from two design projects will be counted as the final grade.
 - Students' unnoticed absence of 4 times will be regarded as Failure of the class.
- Independent Evaluation of two thesis classes
 - Students should prepare and take consultation from two professors regarding on their final design works. -
 - 1) Product Design (Rendering) + UX Design (UI + GUI Screen Flow)
 - 2) Design Scenario Film or Interactive Prototype
 - 3) Panel Design
 - 4) Hardcopy of design report

Studying Contents per Week

wk	Topics	Contents	Assignments
1	Course Introduction	Course Intro. Process of Design Design Item Selection	Course Leader Team Setting Interim Check = 2times / wk.
2	Individual Team Checking	Design Development	Design Discussion Design & Prototyping
3	Individual Team Checking	Design Development	Design Discussion Design & Prototyping
4	Individual Team Checking	Design Development	Design Discussion Design & Prototyping
5	Individual Team Checking	Design Development	Design Discussion Design & Prototyping
6	Individual Team Checking	Design Development	Design Discussion Design & Prototyping
7	Individual Team Checking	Design Development	Design Discussion Design & Prototyping
8	Individual Team Checking	Design Development	Design Discussion Design & Prototyping
9	UX Design Development Design Draft / Revision	Design Development	Design Discussion Design & Prototyping
10	UX Design Development Interactive Prototyping	Design Development	Design Discussion Design & Prototyping
11	Interactive Prototyping Design Modeling	Design Development	Design Discussion Design & Prototyping
12	Graduation Exhibition	Final Presentation for each team	Panel / ID / UI Flow / GUI Screen Report / Interactive Prototype Presentation / Youtube
13	Wrap Up		
14	Wrap Up		
15	Wrap Up		
16	Wrap Up		

Graduation Show



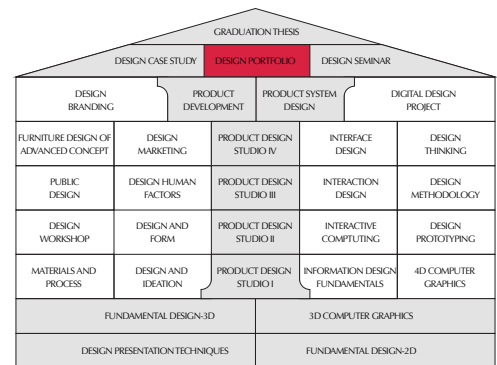
Design Portfolio

ARDE422

Course Outline

This course is a portfolio preparation class that affords the graduating student to build a presentation of their works over their college course studies in the industrial design, graphic design or information design. Because of this, senior students (qualified students) are strongly required to take the course.

The course is for the benefit of students preparing to graduate. It is to enable students to compile accomplished work into a quality presentation. The students can use the complete portfolio for seeking employment opportunities or apply for a graduate school. Students will be required to present or submit their previous works in the class in order to revise, reform, or develop them, resulting in a high fidelity portfolio.



Course Objective

- To provide the students with the practical experience in a real project with professional materials
- To guide the students to find their very own strength and highest potentials from their work
- To encourage the students to revise their work in order for them to grow to their highest potential
- To help the students to have more creative, very personal, and high-quality portfolio
- To learn about the organization of design works
- To learn how to be more creative during the problem-solving process
- To learn how to prepare and present work for professional or academic opportunities

Grading Scale

Project quality is a crucial evaluation material. Good design will bring a good grade. However, student's class participation and attitude is also very important evaluation guide. 4 Absences will occur because of F grade (excused absence are an exception), and late assignment submissions will lower your grade.

- Attendance, observed performance, attitude, etc.: 20%
- First presentation: 20%
- Mid-term examination: 30%
- Final assignment: 30%

Assignments



Ku Su hyun(09), 2013, BAL: Meet Western & Oriental Culture

You can feel the special mood when the western culture meets the oriental culture. Plastic disposable cups culture comes from the western culture. But the bamboo wood, and a unique structure comes from the oriental culture.



Ku Su hyun(09), 2013, SMITH: Customizationronic Product

In the near future, people will select their electronic products. especially, material, finishing, of all products.

Design Seminar

ARDE423

Course Outline

The objective of this course is to help students understand and practice the fundamentals of presentation skills - the skill of communicating ideas with various types of audience - required for better design practice. Students are expected to be exposed to various types of presentation and discussion situations and to learn how to organize and present his/her own ideas or design related topics for specific purpose and audience.

Grading

Your final grade will be based on these criteria:

- Attendance and participation (30%)
- Discussion and Participation (30%)
- Presentations (40%)

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Studying Contents per Week

wk	Lectures
1	Overview the course
2	Discussion 1: Topics
3	Lecture 1: Presentation (proposals, research)
4	Lecture 2: Presentation (analysis)
5	Lecture 3
6	Seminar 1
7	Seminar 2
8	Seminar 3
9	Seminar 4
10	Seminar 5
11	Seminar 6
12	Seminar 7
13	Seminar 8
14	Seminar 9
15	Seminar 10
16	Final Discussion

Design Case Study

ARDE424

Course Outline

Students will be provided the interview materials of magazine in [Monthly Design] from 2005 to 2018 in this lecture. Students conduct the exploration of various professional areas in design, the analysis of their competencies, the interview of designers in interest areas and the own vision and prospect about changing future society. Professor will help students to work for these progress. Especially, professor can introduce the designers to students and help the interview process.

Course Objective

'Design Case Study' is to learn the competencies, attitude and skill as a future designers with exploration about actual various design areas and designers. Students try to analyze the successful factors of design field and professional designers through the material which professor will provide. Students will select areas that they'd like to, and execute the interview of its designers, forecast about own future job and career. Students can make an opportunity about planning own future actively through the connection of actual designers and self-motivated works.

Reference

- Interview Sections, Monthly Design Magazine, 2005 ~ 2018
- Officail Blog of Naver and Monthly Design <https://blog.naver.com/designpress2016>
- Nigel Cross. (2013). 박성은 역. Design Thinking: Understanding How Designers Think and Work [디자인너는 어떻게 생각하는가]. 안그래픽스.
- 김보섭. (2017). Creative Thinking in Imagery [이미지로 생각한다는 것]. 베란다

GRADUATION THESIS				
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Course Guideline

Course progress consists the preparation before class, things to do in class, assignment and advising after class. Class is not conducted only in class time. Professor help students' development fully.

Studying Contents per Week

wk	Topics	Contents	Assignments
1	Goal, Introduction lecture, Grading Assignment Explanation		Overview Class Material
2	Navigating Present Areas and Designers through Interview	Presentation Design Areas and Designers Past to Now	Analysis Design Areas and Designers in Design Magazine
3	Navigating Present Areas and Designers through Interview	Presentation Design Areas and Designers Past to Now	Analysis Design Areas and Designers in Design Magazine
4	Analysis Design Areas and Designers	Presentation and Discussion	Analysis Competencies of Design Areas and Designers
5	Analysis Design Areas and Designers	Presentation and Discussion	Analysis Competencies of Design Areas and Designers
6	Analysis Competencies of Design Areas and Designers	Presentation and Discussion	Analysis Competencies of Design Areas and Designers
7	Analysis Competencies of Design Areas and Designers	Presentation and Discussion	Interview Planning
8	Mid-term Break		
9	Special Lecture 'Future Design'	Special Lectures	Interview Planning
10	The Future Designers and New Areas in the Future	Interview Preparation Workshop Team Matching	Preparing Questionnaire Team of 2 Students
11	Preparing Interview Questionnaire	Interview Preparation Workshop	Preparing Questionnaire
12	Conducting Interview of Designers	Conducting Interview of Designers	Interview Designers, Forecasting My Future Design Areas & Career
13	Conducting Interview of Designers	Conducting Interview of Designers	Interview Designers, Forecasting My Future Design Areas & Career
14	Forecasting My Future Design & Career	Presentation and Discussion	Do Own Self-motivated Project
15	Forecasting My Future Design & Career	Presentation and Discussion	Do Own Self-motivated Project
16	Final Presentation	Presentation and Discussion	

Design Branding

ARDE425

Course Outline

Effective design solution is dependent on clear understanding of design problems and application of appropriate tools to satiate consumer aspirations.

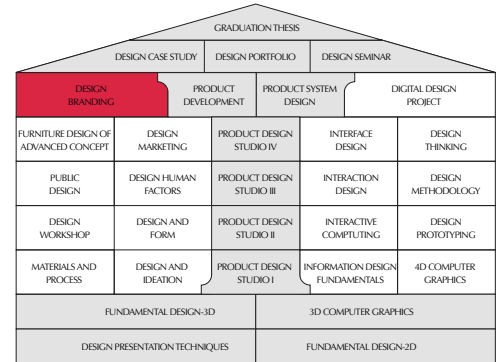
Course Objective

The objective of this course is to help students understand the fundamental knowledge of design principles and methodologies associated with the real-world design practice. Students will study design principles and review various examples of design practice from incubation to implementation to market acceptance. Also, students are expected to practice through group discussions and project toward the latter part of the course. The goal of this course is to be exposed to product/service design development which creates a holistic consumer brand experience. The expected outcome is a student fully understanding and capable of design branding practice using appropriate tools and rationales to meet consumers' aspiration.

Grading

Your final grade will be based on these criteria:

- Attendance (20%)
- Mid-term exam (30%)
- Presentations & critiques (Group - 20%, Personal - 30%)



Studying Contents per Week

wk	Lectures
1	Overview
2	Design and designer
3	Design, brand and consumer
4	Roles of design 1: from conception to direction
5	Roles of design 2: from conceptualisation to realisation
6	Design language/product identity
7	Brand Experience
8	Mid-term exam
9	Group Project 1A
10	Group Project 1B
11	Presentation & critique (student participation is required)
12	Group Project 1C
13	Group Project 1D
14	Presentation & critique (student participation is required)
15	Group Project 1E
16	Final presentation & critique (student participation is required)