Product Design

(Grade 2022)

Course code: 130504

I. Cultivation Objectives

1. General cultivation objective

This program focuses on the strategic goal of building the "Design Capital" in Shanghai, and is oriented towards the field of "design of modern consumer goods", featuring collaborative innovation and interdisciplinary integration of "cultural and scientific innovation". and the advantages of ability to realize the "application of innovative design", serving the needs of the economic development of the Yangtze River Delta and reflecting leading role of this program. The program relies on the teaching mode of "industry-academia linkage work system" and implements the teaching concept of "integrating art and engineering, creativity and technology, and curriculum and industry" to cultivate innovative, complex and application-oriented design talents with advanced design concepts, keen market insight, strong creative design and aesthetic ability to meet the needs of the new era.

2. Objective of value guidance

Based on its own characteristics, the program takes "constantly meeting the growing needs of the people for a better life" as its mission and promotes the values of "truth", "goodness" and "beauty". The program insists on leading professional education with core values of socialism, in order to guide students to be diligent in learning, cultivate morality, distinguish right from wrong, be innovative and pragmatic, and to cultivate socialist builders and successors with a broad international perspective, profound national sentiment, high national humanity, strong social responsibility, excellent professional skills and comprehensive development of moral, intellectual, physical, social and aesthetic skills, and to strive to promote the "transformation from Made in China to Created in China", ”China's Speed to China's Quality“ and ”Large Manufacturing Country to Strong Manufacturing Country".

3. Five years after graduation, students in this program should achieve the following objectives:

Five years after graduation, students will be able to adapt to the needs of a new era of social development, and will have the ability to apply design thinking to "problem solving" as well as a certain level of aesthetic sophistication.

II. Graduation requirements

1. Ideological, political and moral education requirements

This program build students with good character, build learning attitude with good character and teach with good character in order to achieve a comprehensive integration of the professional ideological, political system with the professional teaching system, and promote the overall improvement of students' ideological level, political consciousnesses, moral quality and cultural literacy, such as:

(1) Education about cultural confidence: Based on traditional aesthetics and traditional culture, led by the spirit of the 19th National Congress, and in accordance with the objectives of Shanghai's "five centers" and "four brands", students will be trained to develop a basic sense of cultural confidence and construction.

(2) Education about patriotism: The programme will train students to develop a sense of mission and

responsibility and to contribute to the transformation of "Made in China to Created in China, China's speed to China's quality, and the transformation of a large manufacturing country to a strong manufacturing country".

(3) Education about moral quality: Aiming at the front-line designers of the new era, the programme aims to cultivate students' craftsmanship, team spirit and professionalism through education on professional ethics and social ethics, and to enhance their personal cultivation and humanistic sentiments.

(4) Education about safety: The program popularizes education on legal safety and ecological safety, and strengthens students' consciousnesses of public safety, environmental protection and intellectual property protection.

(5) Education about innovation and entrepreneurship: In line with the needs of social development in the new era, this programme provides in-depth teaching from "creativity" to "innovation" and then "entrepreneurship" to equip students with basic innovation and entrepreneurship.

(6) Education on core values: In conjunction with professional practice, the programme guides students to understand the basic requirements of core socialist values and to master the basic methods of using design as a means to promote core values of socialism.

2. Knowledge and Competence Requirements

Through a combination of classroom teaching and industrial practice, students will learn and master the theoretical foundations of the product design profession in a systematic way. Through the corresponding 'course clusters' - students will be able to understand certain design theories and frontiers, and be equipped with the ability to think creatively about design, express product design, shape and aesthetics, apply digital technology, and apply engineering structures for a career in product design. And be able to initially complete comprehensive human factors research and design, commercialized design, and industrialized creative design, such as:

(1) Master the correct design concepts, systematic design procedures and standardized design methods.

(2) Master the basic theoretical knowledge in the professional field of product design and possess certain creative thinking skills.

(3) Master the rapid expression methods of product design, with certain creative expression ability.

(4) Master the product design modelling methods, with a certain degree of aesthetic ability.

(5) Master the product design three-dimensional modelling and rendering techniques, with a certain degree of three-dimensional dynamic performance ability.

(6) Have certain design research and product planning skills.

(7) Have certain ability to express design.

(8) Have certain ability to apply engineering structures.

(9) Have certain ability in integrated industrialized creative design.

(10) Have certain ability of interdisciplinary and cross-disciplinary collaboration.

3. Service orientation

In order to meet the needs of social development in the new era and to meet the objectives of Shanghai's "Five Centers" and "Four Brands" construction, the vocational positions for graduates of this major include

(1) Work in Product Design and R&D in various types of companies in China and abroad.

(2) Working in product planning, design or management in a front-line design company or agency.

(3) Interdisciplinary and cross-disciplinary work related to cultural and creative industries, Aesthetic Education,

etc.

(4) Become an independent designer or joint venture.

III. Schooling System

Four years.

IV. Length of Study

Flexible study period, generally four years, the minimum length of flexibility is not less than three years, the longest not more than six years.

V. Requirements for Graduation and Degree Conferring

Students must complete the minimum number of credits required for each category of study in accordance with the requirements of the Instructive Cultivation Plan, and complete all the content required for the Extracurricular Class, with a total of 155 credits, in order to graduate; those who meet the requirements for the award of a Bachelor's degree will be awarded a Bachelor of Fine Arts.

VI. Discipline

Design (Design Art), Philosophy (Aesthetics), Psychology (Applied Psychology), Mechanical Engineering (Mechatronics Engineering).

VII. Core Courses

Introduction to Product Design, History of Product Design, Fundamentals of Design Representation, Design Composition (A), Design Composition (B), Creative Thinking in Design, 3D Modelling and Rendering of Products, Design and Production of Product Shapes (A), Design and Production of Product Shapes (B), Product Design Materials and Processes, Ergonomics, Product Design (A), Product Design (B), Product Design (C).

The main practical sessions include: military training, internship, visits, research, curatorial exhibitions, "industry-university linkage" design project practice (design theme practice), design (innovation and entrepreneurship) competition, international exchange activities, graduation design, etc.

VIII. Course Structure and Course Hours (excluding Extracurricular Class)

Category	Total Credit	%	Total Course Hours	Theory Learning	Practical Training
Public Fundamental Course	36.5	24	720	640	80
General Education	10	6	160	160	0
Professional Fundamental Course	40	26	640	242	398
Professional Course	67.5	44	1280	308	972
Total	154	100	2800	1350	1450
Theory: Practical (%)	48 : 52				

IX. Teaching schedule (1)

Category	Type	Provided by	Course Code	Course Name	Assessment	Credit	Course Hours	Theory Learning	Practical Training	Recommended semester
Public Fundamental Course	required	School of Marxism	b1080001	Basic Principles of Marxism	test	3	48	42	6	Autumn 1
	required	School of Marxism	b1080009	Ethics and the Rule of Law	non-test	3	48	42	6	Autumn 1
	required	School of Marxism	b1080006	Outline of Modern Chinese History	non-test	3	48	42	6	Spring 1
	required	School of Marxism	b1080004	Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics I	test	3	48	42	6	Autumn 2
	required	School of Marxism	b1080007	Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics II	test	2	32	28	4	Spring 2
	required	School of Marxism	-----	Situation and Policy (Modules 1 to 4)	non-test	2	32	28	4	Autumn 1 to Spring 2
	required	School of Marxism	b1080008	Labour Education A	non-test	0.5	16	16		Spring 1
	required	College of Arts and Sciences	b1020018	Academic Chinese	non-test	2	32	32		Autumn 1
	required	College of Physical Education	-----	Physical Education I to VI	non-test	3	160	160		Autumn 1 to Autumn 4
	required	Others	b1110003	Military skills	non-test	0.5	2W			Autumn 1
	required	College of Arts and Sciences	b1110002	Military theory	non-test	0.5	32	32		Spring 1
	required	Engineering Training	b1090001	Basic Engineering Training	non-test	2	32		32	Autumn 1
	required	Others	b1110004	Mental Health Education for University Students	non-test	2	32	16	16	Spring 1
	★ Academic English(Select 1 Module for 10 Credits)	Module A	b1020003	General English III	test	3	48	48		Autumn 1
			b1020004	General English IV	test	3	48	48		Spring 1
			b1020005	General Academic English A	test	2	32	32		Autumn 2
			---	English Knowledge Expansion	non-test	2	32	32		Spring 2
		Module B	b1020002	General English II	test	3	48	48		Autumn 1
			b1020003	General English III	test	3	48	48		Spring 1
			b1020006	General Academic English B	test	2	32	32		Autumn 2
			---	English Knowledge Expansion	non-test	2	32	32		Spring 2
		Module C	b1020001	General English I	test	4	64	64		Autumn 1
			b1020002	General English II	test	3	48	48		Spring 1
			b1020003	General English III	test	3	48	48		Autumn 2
	★ Academic German	College of Arts and Sciences	b1020040	Academic German I	test	3	48	48		Autumn 1
		College of Arts and Sciences	b1020041	Academic German II	test	3	48	48		Spring 1
		College of Arts and Sciences	b1020042	Academic German III	test	4	64	64		Autumn 2
	★ Academic Japanese	College of Arts and Sciences	b1020077	Academic Japanese I	test	3	48	48		Autumn 1
		College of Arts and Sciences	b1020078	Academic Japanese II	test	3	48	48		Spring 1
		College of Arts and Sciences	b1020079	Academic Japanese III	test	4	64	64		Autumn 2
Subtotal (Public Fundamental Course)						**36.5**	**720**	**640**	**80**	
General Education	selective	Art Education Center	b0-----	Aesthetic Education	non-test	2	32	32		Autumn, Spring
	selective	Each College	b0-----	Social Sciences and Humanistic Qualities	non-test	4	64	64		Autumn, Spring
				Natural Sciences and Technology Innovation	non-test	4	64	64		Autumn, Spring
Subtotal (General Education)						**10**	**160**	**160**		

(★Note: The first foreign language is 10 credits in total, including 3 languages: Academic English, Academic German and Academic Japanese, choose the appropriate language as required; When Academic English is chosen, please choose the appropriate module in Module A, B, C)

IX. Teaching schedule (2)

Category	Type	Provided by	Course Code	Ability Modules	Course Name	Assessment	Credit	Course Hours	Theory Learning	Practical Training	Recommended semester
Professional Fundamental Course	required	School of Applied Arts and Design	b2041213	Abilities of Design Theory and Research	Introduction to Product Design	test	1	16	12	4	Autumn 1
	required	School of Applied Arts and Design	b2041224		History of Product Design	test	1	16	12	4	Spring 1
	subtotal						**2**	**32**	**24**	**8**	
	required	School of Applied Arts and Design	b2041225	Abilities to apply digital technology	Product graphic image processing	test	3	48	18	30	Spring 1
	required	School of Applied Arts and Design	b2041226		Product 3D modelling and rendering	test	6	96	36	60	Autumn 2
	subtotal						**9**	**144**	**54**	**90**	
	required	School of Applied Arts and Design	b2041214	Abilities of Styling and Aesthetic	Fundamentals of Design Expression	test	4	64	16	48	Autumn 1
	required	School of Applied Arts and Design	b2041099		Design Composition (A)	test	3	48	12	36	Autumn 1
	required	School of Applied Arts and Design	b2041163		Design Composition (B)	test	3	48	12	36	Spring 1
	required	School of Applied Arts and Design	b2041164		Product Design and Production (A)	test	4	64	24	40	Autumn 2
	required	School of Applied Arts and Design	b2041237		Product Design and Production (B)	test	4	64	24	40	Spring 2
	subtotal						**18**	**288**	**88**	**200**	
	required	School of Applied Arts and Design	b2041152	Abilities of Creative thinking	Design sketches	test	2	32	8	24	Autumn 1
	required	School of Applied Arts and Design	b2041227		Designing innovative thinking	test	3	48	24	24	Spring 1
	subtotal						**5**	**90**	**32**	**48**	
	required	School of Applied Arts and Design	b2041041	Abilities to express design	Product Photography	test	2	32	12	20	Spring 1
	required	School of Applied Arts and Design	b2041228		Layout	test	2	32	16	16	Autumn 2
	required	School of Applied Arts and Design	b2041229		Product visual messaging	test	2	32	16	16	Autumn 2
	Subtotal						**6**	**96**	**44**	**52**	
	Subtotal (Professional Fundamental Course)						**40**	**640**	**242**	**398**	

IX. Teaching schedule (3)

Category	Type	Provided by	Course Code	Ability Modules	Course Name	Assessment	Credit	Course Hours	Theory Learning	Practical Training	Recommended semester
Professional Course	required	School of Applied Arts and Design	b2041234	Abilities of Design Theory and Research	Ergonomics	test	4	64	32	32	Autumn 3
	required	School of Applied Arts and Design	b2041141		User research	test	2	32	16	16	Autumn 3
	required	School of Applied Arts and Design	b2041118		Market Research	test	2	32	16	16	Spring 3
	subtotal						**8**	**128**	**64**	**64**	
	required	School of Applied Arts and Design	b2041230	Abilities of Creative thinking	Design Frontiers and Trends	test	2	32	24	8	Autumn 4
	required	School of Applied Arts and Design	b4000039		the program of Product Design Innovation and Entrepreneurship	non-test	2	32	0	32	Autumn 4
	subtotal						**4**	**64**	**24**	**40**	
	required	School of Applied Arts and Design	b2041115	Abilities to express design	Integrated expression of design	test	1	16	0	16	Autumn 4
	subtotal						**1**	**16**	**0**	**16**	
	required	School of Applied Arts and Design	b2041169	Abilities to apply engineering structures	Design Graphics and Product Mapping	test	3	48	24	24	Spring 2
	required	School of Applied Arts and Design	b2041231		Product Design Materials and Processes	test	2	32	24	8	Spring 2
	selective 3 credits	School of Applied Arts and Design	b2041032		Product 3D Printing and Reverse Engineering	test	3	48	16	32	Spring 3
		School of Applied Arts and Design	b2041232	Abilities to apply digital	Dynamic product representation and virtual	test	3	48	16	32	Spring 3
	subtotal						**8**	**128**	**64**	**64**	
	required	School of Applied Arts and Design	b2041034	Comprehensive abilities of product design	Product Design(A)	test	6	96	32	64	Spring 2
	required	School of Applied Arts and Design	b2041035		Product Design(B)	test	6	96	32	64	Autumn 3
	required	School of Applied Arts and Design	b2041036		Product Design(C)	test	6	96	32	64	Spring 3
	required	School of Applied Arts and Design	b2041112		Thematic practice for Designing (A)	test	4	64	0	64	Summer 1
	required	School of Applied Arts and Design	b2041113		Thematic practice for Designing (B)	test	4	64	0	64	Summer 2
	required	School of Applied Arts and Design	b2041114		Thematic practice for Designing (C)	test	4	64	0	64	Summer 3
	subtotal						**30**	**480**	**96**	**384**	
	required	School of Applied Arts and Design	b2041235	Abilities of Cross Fusion Design	Interaction design	test	3	48	18	30	Autumn 3
	selective 4 credits	School of Applied Arts and Design	b2041084		Brand Identity Design	test	4	64	24	40	Spring 3
		School of Applied Arts and Design	b2041233		Service design	test	4	64	24	40	Spring 3
	selective 3 credits	School of Applied Arts and Design	b2041030		Product packaging design	test	3	48	18	30	Autumn 4
		School of Applied Arts and Design	b2041045		Product display design	test	3	48	18	30	Autumn 4
	subtotal						**10**	**160**	**60**	**100**	
	required	School of Applied Arts and Design	b4040014	Labour Education B		non-test	0.5	16	0	16	Spring 3
	required	School of Applied Arts and Design	b4040009	Product Design graduation internship and graduation design (thesis)		non-test	6	288	0	288	Spring 4
	Subtotal						**6.5**	**304**	**0**	**304**	
	Subtotal (Professional Course)						**67.5**	**1280**	**308**	**972**	
Extracurricular Class	required	Others	b5110001	Extracurricular Class		non-test	**1**	-	-	-	Autumn Spring
Total							**155**	**2800**	**1350**	**1450**	

X. Prerequisite for Course Study

No.	Course Name	Prerequisite Course	No.	Course Name	Prerequisite Course
1	History of Product Design	Introduction to Product Design	16	User research	Ergonomics
2	Design sketches	Fundamentals of Design Expression	17	Market Research	User research
3	Design Composition B	Design Composition A	18	Interaction design	Ergonomics
4	Designing innovative thinking	Design sketches			Product Design(A)
5	Layout	Product graphic image processing	19	Integrated expression of design	Product Design(C)
6	Product visual messaging	Product graphic image processing			Thematic practice for Designing (C)
		Product Photography	20	Product Design(A)	Designing innovative thinking
7	Product Design and Production (A)	Design Composition (A)			Product visual messaging
		Design Composition (B)			Layout
8	Product Design and Production (B)	Product styling and Production (A)			Product styling and Production (B)
		Product 3D modelling and rendering			Design Graphics and Products Surveying and Mapping
9	Design Graphics and Product Mapping	Product 3D modelling and rendering			Product Design Materials and Processes
10	Product Design Materials and Processes	Design Graphics and Product Mapping	21	Product Design(B)	Product Design(A)
		Product styling and Production (A)			Ergonomics
11	Dynamic product representation and virtual simulation	Product 3D modelling and rendering			User research
		Product visual messaging	22	Product Design(C)	Product Design(B)
12	Product 3D Printing and Reverse Engineering	Design Graphics and Product Mapping			Interaction design
		Product Design Materials and Processes			Market Research
13	Brand Identity Design /Service Design	Product Design(B)	23	Thematic practice for Designing (A)	Designing innovative thinking
14	Product Packaging Design/Product Display Design	Product Design(C)	24	Thematic practice for Designing (B)	Thematic practice for Designing (A)
15	Design Frontiers and Trends	Product Design(C)	25	Thematic practice for Designing (C)	Thematic practice for Designing (B)

XI. Credit of Extracurricular Class

Through taking extracurricular classes, students are encouraged to take part in academic lectures, social practice activities, campus cultural and sports activities, innovative and entrepreneurial activities, voluntary activities, etc. to improve their social adaptability and enhance the competitiveness in the job market. Details are specified in Students' Manual.