

School of Design

Program of Industrial Design for International Students (2023)

I. Introduction

SUSTech School of Design aims to build a global creative community in which learning, research, and engagement are all part of the creative experience, to educate students in the enormous potentials and responsibilities of design, and to translate leading technologies into new design outcomes and industry advancement for social benefit.

SUSTech School of Design offers rigorous project-based teaching programs led by a team of leading designers, and scholars. Teaching programs will focus initially on object design, and experience design. These areas of focus are aligned and framed to bridge basic research to industrial needs, leading to careers in gaming, product design, animation, branding, graphics and so on. Cross-disciplinary activities are implemented, including internships, research projects, entrepreneurial projects, and graduation project. Close links with industry leaders and creative makers enhance learning and research. The curriculum structure of the School will allow future addition of areas such as interaction, environmental and wearables design.

Academic subject areas: Mechanical Engineering (0802)

Program code: 080205

II. Objectives and Learning Outcomes

1. Objectives

Design is the translation platform for bringing scientific and technological advances to broad benefit to society. The School of Design is committed to educating students into the skills and theoretical foundations of creative thinking of a wide range of fields of design, including object design, wearable design, interaction design, experience design and environmental design, with a contemporary focus on the opportunities for smart materials and devices, enhancing inclusiveness in society, and improving wellness through design. Particular attention will be paid to the ethical and professional responsibilities of design. Working closely with industry, the program will

develop innovation, entrepreneurship and creativity to drive the national and global outcomes from better design. Located in the global center for manufacturing and production, we are in an unparalleled context for developing creative ideas and delivering the outcomes to everyone in the world. Graduates will have capabilities to research, design, collaborate and communicate and will find future employment in designing consumer and IT products, furniture, toys, interaction, games, and exhibitions, or prepare for a career in research and academia.

2. Learning Outcomes

Upon graduation, students will:

- a) Attain the ability to recognize and grasp opportunities to use design skills to conceptualize and create the future
- b) Draw upon and integrate knowledge from diverse domains, including humanities, social sciences, natural sciences and technologies.
- c) Have developed skills and theoretical foundations for self-directed designing and learning
- d) Use contemporary tools, techniques and systems to deliver robust designed outcomes
- e) Develop capacities for critical thinking and evaluation that leads to design advances
- f) Hold aesthetic and ethical perspectives to guide responsible practice
- g) Be able to work effectively and respectfully in multicultural team contexts to pursue diverse opportunities
- h) Be aware of the social, cultural and environmental impacts of design

III. Study Length, Degree, and Graduation Requirements

1. Study length: 4 years.

2. Degree conferred: Students who complete and meet the degree requirements of the undergraduate program will be awarded a bachelor's degree in Engineering

3. The minimum credit requirement for graduation: 163 credits. The specific requirements are as follows.

Module		Category	Minimum Credit Requirement
General Education Courses	Chinese Language and Culture Module	Chinese Language and Culture	16
	Arts and Physical Education Module	Physical Education	4
		Arts	2
	Competence Development Module	Computer Programming	3
		Writing	2
		Foreign Languages	14
	Humanities and Social Sciences Module	Humanities	6
		Social Sciences	
		Chinese Studies	2
	Mathematics and Natural Sciences Module	Mathematics	12
		Physics	10
		Chemistry	3
		Geoscience + Life science	3
GE to Majors Bridging Module	Introduction to Majors	2	
Major Courses	Major Required Courses	Major Foundational Courses	18
		Major Core Courses	15
		Practice-based Learning (Undergraduate Thesis, Internships, Research projects, etc.)	21
	Major Elective Courses	Major Elective Courses	30
Total			163
Note: please see the General Education Requirement for more details on Chinese Language and Culture Module, Arts and Physical Education Module, Competence Development Module (Foreign Languages & Writing) , Humanities and Social Sciences Module, and GE to Majors Bridging Module.			

IV. Course Requirements for the Mathematics and Natural Sciences Module and Computer Programming

Course Category	Course Code	Course Name	Credits	Terms	Prerequisite	Dept.
Mathematics	MA118/ MA117/ MA101a	Single-variable Calculus/Calculus I/Mathematical Analysis I	4/5	1 Fall	None	Department of Mathematics
	MA128 MA127/ MA102a	Multivariable Calculus/Calculus II/Mathematical Analysis II	4/5	1 Spring	Single-variab le Calculus/ Calculus I/Mathematic al Analysis I	Department of Mathematics
	MA113/ MA107	Linear Algebra/ Advanced Linear Algebra I	4	1 Spring & Fall	None	Department of Mathematics
Physics	PHY105/ PHY101	College Physics I/ General Physics I	4/5	1 Fall	None	Department of Physics
	PHY106/ PHY102	College Physics II/ General Physics II	4/5	1 Spring	College Physics I/ General Physics I	Department of Physics
	PHY104B	Experiments of Fundamental Physics	2	1-2 Spring & Fall	None	Department of Physics
Chemistry	CH105/ CH103	Chemistry: The Central Science/General Chemistry	3	1-2 Spring & Fall	None	Department of Chemistry
Geoscience + Life Science	BIO102B/ BIO103	Introduction to Life Science/Principles of Biology	3	1-2 Spring & Fall	None	Department of Biology
Computer Programming	CS110/ CS109	Introduction to Java Programming/ Introduction to Computer Programming	3	1-2 Spring & Fall	None	Dept. of Computer Science and Engineering

V. Prerequisites for Major Declaration

Major Declaration Time	Course Code	Course Name	Prerequisite
Declare major at the end of the first academic year	MA118/ MA117/ MA101a	Single-variable Calculus/Calculus I/Mathematical Analysis I	None
	MA128/ MA127/ MA102a	Multivariable Calculus/Calculus II/Mathematical Analysis II	Single-variable Calculus/Calculus I/Mathematical Analysis I
	MA113/ MA107	Linear Algebra/ Advanced Linear Algebra I	None
	PHY105/ PHY101	College Physics I/ General Physics I	None
	PHY106/ PHY102	College Physics II/ General Physics II	College Physics I/ General Physics I
	PHY104B	Experiments of Fundamental Physics	None
	CS110/ CS109	Introduction to Java Programming/ Introduction to Computer Programming	None
Declare major at the end of the second academic year	MA118/ MA117/ MA101a	Single-variable Calculus/Calculus I/Mathematical Analysis I	None
	MA128/ MA127/ MA102a	Multivariable Calculus/Calculus II/Mathematical Analysis II	Single-variable Calculus/Calculus I/Mathematical Analysis I
	MA113/ MA107	Linear Algebra/ Advanced Linear Algebra I	None
	PHY105/ PHY101	College Physics I/ General Physics I	None
	PHY106/ PHY102	College Physics II/ General Physics II	College Physics I/ General Physics I
	PHY104B	Experiments of Fundamental Physics	None
	CS110/ CS109	Introduction to Java Programming/ Introduction to Computer Programming	None
	CH105/ CH103	Chemistry: The Central Science/General Chemistry	None
	BIO102B/ BIO103	Introduction to Life Science/Principles of Biology	None
<p>Note:</p> <ol style="list-style-type: none"> 1. If the number of students entering a major at the end of the first academic year in the department is greater than or equal to the total number of the teaching-research faculty (PI)*2*60%, all majors in the department may implement the prerequisites for major declaration at the end of the second academic year. 2. If the number of students entering a major at the end of the first academic year in the department is less than the total number of the teaching-research faculty (PI)*2*60%, all majors in the department do not implement the prerequisites for major declaration at the end of the second academic year. 3. Suppose the number of students applying for a major at the end of the first academic year exceeds four times the total number of the teaching-research faculty (PI), then the department may select students according to predetermined rules. In principle, the rules set by the department shall examine the students' suitability for the major and not based on weighted GPA (Specific rules shall be set by the department and announced in advance). 4. For departments that do not implement prerequisites for major declaration at end of the second academic year, if the cumulative number of students applying for a major at the end of the second academic year and the number of students who have entered a major at the end of the first academic year exceeds four times the total number of the teaching-research faculty (PI), the department may select students according to predetermined rules. In principle, the rules set by the department shall examine the students' suitability for 			

the major and not based on weighted GPA (Specific rules shall be set by the department and announced in advance).

VI: Major Course Arrangement

Table 1: Major Required Courses

Program of Industrial Design

Course Category	Course Code	Course Name	Credits	Practice-based Learning Credits	Terms	Prerequisite	Dept.
Major Foundational Courses	DS201	Visual Representation	3	1	2 Fall	NA	DES
	DS202	3D from 2	3	1	2 Fall	NA	DES
	DS203	Additive Manufacturing	3	1	2 Fall	NA	DES
	DS204	Responsive Systems	3	1	2 Fall	NA	DES
	DS207	Design History	3		2 Fall	NA	DES
	DS208	Design Ethics	3		2 Spr	NA	DES
	Total			18	4		
Students in Object focus take the following major core courses:							
Major Core Courses	DS301	Designing Across Time & Space	3	1	3 Fall	NA	DES
	DS302	Product Realization	3	1	3 Spr	NA	DES
	DS303	Manufacturing Systems	3	1	3 Spr	NA	DES
	DS402	Research Project	3	1	4 Fall	NA	DES
	DS403	Research Methods for Design	3		4 Fall	NA	DES
	Total			15	4		
Students in Experience focus take the following major core courses:							
Major Core Courses	DS311	Game Survey and Evaluation	3	1	3 Fall	NA	DES
	DS312	Making a Game	3	1	3 Spr	NA	DES
	DS313	Sound & Senses	3	1	3 Spr	NA	DES
	DS402	Research Project	3	1	4 Fall	NA	DES
	DS403	Research Methods for Design	3		4 Fall	NA	DES
	Total			15	4		
Practice-based Courses	DS210	Internship 1	3	1	3 Fall	NA	DES
	DS310	Internship 2	3	1	4 Fall	InternShip 1	DES
	DS411	Design Entrepreneurship Project	3	3	4 Fall	NA	DES
	DS420	Graduation Project	12	12	4 Spr	NA	DES
	Total			21	17		
Total			54	25			

Table 2: Major Elective Courses

Program of Industrial Design

1. Major Common Elective Courses

Course Code	Course Name	Credits	Practice-based Learning Credits	Terms	Prerequisite	Dept.
DS221	Personal System: Object	3	1	2 Spr	NA	DES
DS222	Personal System: Experience	3	1	2 Spr	NA	DES
DS223	Client Product: Object	3	1	2 Spr	NA	DES
DS224	Client Product: Experience	3	1	2 Spr	NA	DES
DS225	Circular Products: Object	3	1	2 Spr	NA	DES
DS226	Circular Products: Experience	3	1	2 Spr	NA	DES
Total		18	6			

Note: The program has two teaching focuses, i.e. object design and experience design. Each focus offers the series of three courses, which are personal system, client product and circular products. Students shall take the three courses for a total of 9 credits. Students can choose either teaching focus when take one of the three courses.

2. Major Common Elective Courses

Course Code	Course Name	Credits	Practice-based Learning Credits	Terms	Prerequisite	Dept.
DS103	Designing for Beginners	3		1/2	NA	DES
DS320	Usability & User Experience of Products & Systems	3		3/4	NA	DES
DS321	Design Practice Management	3	1	3/4	NA	DES
DS322	UX and Interaction	3	1	3/4	NA	DES
DS323	AI in Design	3	1	3/4	NA	DES
DS324	Contemporary Design History	3	1	3/4	NA	DES
DS325	Film Production	3	1	3/4	NA	DES
DS326	Realities VR & AR	3	1	3/4	NA	DES
DS327	Immersive Experiences	3	1	3/4	NA	DES
DS328	Materiality	3	1	3/4	NA	DES
DS329	3D Modelling	3	1	3/4	NA	DES
DS362	Designing with Environments	3	1	3/4	NA	DES
DS331	Narrative and Cognition	3		3/4	NA	DES
DS330	Design Narrative	3		3/4	NA	DES
DS314	Service Design	3		3/4	NA	DES
DS110	Summer Studio	3	1	1/2/3 Summer	NA	DES
DS111	Special Topics in Design	1	1	1/2/3	NA	DES

				Summer	
Total		49	12		

Note: Students complete 1 studio course and 2 lectures (9 credits)

2. Major Focus Elective Courses

Course Code	Course Name	Credits	Practice-based Learning Credits	Terms	Prerequisite	Dept.
DS333	Narrative and Branding	3	1	3/4	NA	DES
DS334	Advanced Manufacturing	3	1	3/4	NA	DES
DS335	Product UX	3	1	3/4	NA	DES
DS336	Electronics and Controls	3	1	3/4	NA	DES
DS337	Responsive Devices	3	1	3/4	NA	DES
DS338	Branding and Marketing	3	1	3/4	NA	DES
DS339	Service Design	3	1	3/4	NA	DES
DS340	Color, Materials, Finish	3	1	3/4	NA	DES
DS341	Robotic Objects	3	1	3/4	NA	DES
DS357	Industry Practices and Strategies	3		3/4	NA	DES
DS358	Product Philosophies	3		3/4	NA	DES
DS361	Ergonomics in Design	3		3/4	NA	DES
SDM262	Fundamentals of Materials Engineering	3	1	3/4	NA	SDIM
SDM316	Product Function and Mechanism	3	1	3/4	NA	SDIM
SDM372	Intelligent Manufacturing and Equipment	3	1	3/4	SDM232	SDIM
CS314	Internet of Things	3	1	3/4	CS305	CSE
Total		48	13			

Note: Students in Object focus complete 3 studio courses and 1 lectures (12 credits)

2. Major Focus Elective Courses

Course Code	Course Name	Credits	Practice-based Learning Credits	Terms	Prerequisite	Dept.
DS344	Character Modelling	3	1	3/4	NA	DES
DS345	Sound Design	3	1	3/4	NA	DES
DS346	Anime	3	1	3/4	NA	DES
DS347	Scriptwriting	3	1	3/4	NA	DES
DS348	Illustration and Artwork	3	1	3/4	NA	DES
DS349	Game Futures	3	1	3/4	NA	DES
DS350	Character Development	3	1	3/4	NA	DES
DS351	Animation	3	1	3/4	NA	DES
DS352	Game UX	3	1	3/4	NA	DES
DS353	Game Realities: VR & AR	3	1	3/4	NA	DES
DS354	Post Production	3	1	3/4	NA	DES

DS364	Sound Design for Immersive Experiences	3	1	3/4	NA	DES
DS359	Data Management Tools and Strategies	3		3/4	NA	DES
DS360	Advanced Graphics Tools and Techniques	3		3/4	NA	DES
DS363	Design and Learning with Data	3		3/4	NA	DES
CS312	Computer Graphics	3	1	3/4	NA	CSE
CS330	Multimedia Information Processing	3	1	3/4	NA	CSE
CS405	Machine Learning	3	1	3/4	MA103b, MA212	CSE
Total		54	15			

Note: Students in Experience focus complete 3 studio courses and 1 lectures (12 credits)

Table 3: Overview of Practice-based Learning

Program of Industrial Design

Course Code	Course Name	Credits	Practice-based Learning Credits	Terms	Prerequisite	Dept.
DS201	Visual Representation	3	1	2 Fall	NA	DES
DS202	3D from 2	3	1	2 Fall	NA	DES
DS203	Additive Manufacturing	3	1	2 Fall	NA	DES
DS204	Responsive Systems	3	1	2 Fall	NA	DES
DS301	Designing Across Time & Space	3	1	3 Fall	NA	DES
DS302	Product Realization	3	1	3 Spr	NA	DES
DS303	Manufacturing Systems	3	1	3 Spr	NA	DES
DS402	Research Project	3	1	4 Fall	NA	DES
DS311	Game Survey and Evaluation	3	1	3 Fall	NA	DES
DS312	Making a Game	3	1	3 Spr	NA	DES
DS313	Sound & Senses	3	1	3 Spr	NA	DES
DS210	Internship 1	3	1	3 Fall	NA	DES
DS310	Internship 2	3	1	4 Fall	InternShip 1	DES
DS411	Design Entrepreneurship Project	3	3	4 Fall	NA	DES
DS420	Graduation Project	12	12	4 Spr	NA	DES
DS221	Personal System: Object	3	1	2 Spr	NA	DES
DS222	Personal System: Experience	3	1	2 Spr	NA	DES
DS223	Client Product: Object	3	1	2 Spr	NA	DES
DS224	Client Product: Experience	3	1	2 Spr	NA	DES
DS225	Circular Products: Object	3	1	2 Spr	NA	DES
DS226	Circular Products: Experience	3	1	2 Spr	NA	DES
DS321	Design Practice Management	3	1	3/4	NA	DES

DS322	UX and Interaction	3	1	3/4	NA	DES
DS323	AI in Design	3	1	3/4	NA	DES
DS324	Contemporary Design History	3	1	3/4	NA	DES
DS325	Film Production	3	1	3/4	NA	DES
DS326	Realities VR & AR	3	1	3/4	NA	DES
DS327	Immersive Experiences	3	1	3/4	NA	DES
DS328	Materiality	3	1	3/4	NA	DES
DS329	3D Modelling	3	1	3/4	NA	DES
DS110	Summer Studio	3	1	1/2/3 Summer	NA	DES
DS111	Special Topics in Design	1	1	1/2/3 Summer	NA	DES
DS333	Narrative and Branding	3	1	3/4	NA	DES
DS334	Advanced Manufacturing	3	1	3/4	NA	DES
DS335	Product UX	3	1	3/4	NA	DES
DS336	Electronics and Controls	3	1	3/4	NA	DES
DS337	Responsive Devices	3	1	3/4	NA	DES
DS338	Branding and Marketing	3	1	3/4	NA	DES
DS339	Service Design	3	1	3/4	NA	DES
DS340	Color, Materials, Finish	3	1	3/4	NA	DES
DS341	Robotic Objects	3	1	3/4	NA	DES
SDM262	Fundamentals of Materials Engineering	3	1	3/4	NA	SDIM
SDM316	Product Function and Mechanism	3	1	3/4	NA	SDIM
SDM372	Intelligent Manufacturing and Equipment	3	1	3/4	SDM232	SDIM
CS314	Internet of Things	3	1	3/4	CS305	CSE
DS344	Character Modelling	3	1	3/4	NA	DES
DS345	Sound Design	3	1	3/4	NA	DES
DS346	Anime	3	1	3/4	NA	DES
DS347	Scriptwriting	3	1	3/4	NA	DES
DS348	Illustration and Artwork	3	1	3/4	NA	DES
DS349	Game Futures	3	1	3/4	NA	DES
DS350	Character Development	3	1	3/4	NA	DES
DS351	Animation	3	1	3/4	NA	DES
DS352	Game UX	3	1	3/4	NA	DES
DS353	Game Realities: VR & AR	3	1	3/4	NA	DES
DS354	Post Production	3	1	3/4	NA	DES
DS362	Designing with Environments	3	1	3/4	NA	DES
DS364	Sound Design for Immersive Experiences	3	1	3/4	NA	DES
CS312	Computer Graphics	3	1	3/4	NA	CSE
CS330	Multimedia Information Processing	3	1	3/4	NA	CSE
CS405	Machine Learning	3	1	3/4	MA103b, MA212	CSE
Total		183	61			

Curriculum Structure of Industrial Design (School of Design)

