

School of Design

Program of Industrial Design for International Students (2022)

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 area: Mechanical Engineering (0802); Program code: 080205

II. Objectives and Learning Outcomes

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.

Upon graduation, students will:

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

III. Study Length, Degree, and Graduation Requirements

1. Study length: 4 years. The academic credit system of SUSTech allows flexible study years, but not less than 3 years or more than 6 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
		Chinese Studies	2
		Foreign Languages	14
	Humanities and Social Sciences Module	Humanities	6
		Social Sciences	
	Mathematics and Natural Sciences Module	Mathematics	12
Physics		10	
Chemistry		3	
Biology		3	
Introduction to Majors 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 & Chinese Studies & Writing) , Humanities and Social Sciences Module, and Introduction to Majors 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	4/4/5	1 Fall	None	Department of Mathematics
	MA128/ MA127/ MA102a	Multivariable Calculus/Calculus II/Mathematical Analysis II	4/4/5	1 Spring	Single-variable Calculus/Calculus I/Mathematical 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
Biology	BIO102B/ BIO103	Introduction to Life Science/Principles of Biology	3	1-2 Spring & Fall	None	Department of Biology
Computer Programming	CS110	Introduction to Java 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	Introduction to Java 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	Introduction to Java 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	Fall	NA	DES
	DS202	3D from 2	3	1	Fall	NA	DES
	DS203	Additive Manufacturing	3	1	Fall	NA	DES
	DS204	Responsive Systems	3	1	Fall	NA	DES
	DS207	Design History	3		Fall	NA	DES
	DS208	Design Ethics	3		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	Fall	NA	DES
	DS302	Product Realization	3	1	Spr	NA	DES
	DS303	Manufacturing Systems	3	1	Spr	NA	DES
	DS402	Research Project	3	1	Fall	NA	DES
	DS403	Research Methods for Design	3		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	Fall	NA	DES
	DS312	Making a Game	3	1	Spr	NA	DES
	DS313	Sound & Senses	3	1	Spr	NA	DES
	DS402	Research Project	3	1	Fall	NA	DES
	DS403	Research Methods for Design	3		Fall	NA	DES
	Total			15	4		
Practice-based Courses	DS210	Internship 1	3	1	Spr	NA	DES
	DS310	Internship 2	3	1	Spr	InternShip 1	DES
	DS411	Design Entrepreneurship Project	3	3	Fall	NA	DES
	DS420	Graduation Project	12	12	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	Spr	NA	DES
DS222	Personal System: Experience	3	1	Spr	NA	DES
DS223	Client Product: Object	3	1	Spr	NA	DES
DS224	Client Product: Experience	3	1	Spr	NA	DES
DS225	Circular Products: Object	3	1	Spr	NA	DES
DS226	Circular Products: Experience	3	1	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		Spr/Fall	NA	DES
DS320	Usability & User Experience of Products & Systems	3		Fall	NA	DES
DS321	Design Practice Management	3	1	Fall	NA	DES
DS322	UX and Interaction	3	1	Fall	NA	DES
DS323	AI in Design	3	1	Fall	NA	DES
DS324	Contemporary Design History	3	1	Fall	NA	DES
DS325	Film Production	3	1	Fall	NA	DES
DS326	Realities VR & AR	3	1	Fall	NA	DES
DS327	Immersive Experiences	3	1	Fall	NA	DES
DS328	Materiality	3	1	Fall	NA	DES
DS329	3D Modelling	3	1	Fall	NA	DES
DS330	Design Narrative	3		Fall	NA	DES
DS314	Service Design	3		Fall	NA	DES
DS110	Summer Studio	3	1	Summer	NA	DES
DS111	Special Topics in Design	1	1	Summer	NA	DES
Total		43	11			

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	Fall	NA	DES

DS334	Advanced Manufacturing	3	1	Fall	NA	DES
DS335	Product UX	3	1	Fall	NA	DES
DS336	Electronics and Controls	3	1	Fall	NA	DES
DS337	Responsive Devices	3	1	Spr	NA	DES
DS338	Branding and Marketing	3	1	Spr	NA	DES
DS339	Service Design	3	1	Spr	NA	DES
DS340	Color, Materials, Finish	3	1	Spr	NA	DES
DS341	Robotic Objects	3	1	Spr	NA	DES
DS357	Industry Practices and Strategies	3		Spr	NA	DES
DS358	Product Philosophies	3		Spr	NA	DES
SDM262	Fundamentals of Materials Engineering	3	1	Fall	NA	SDIM
SDM316	Product Function and Mechanism	3	1	Fall	NA	SDIM
SDM372	Intelligent Manufacturing and Equipment	3	1	Fall	SDM232	SDIM
CS314	Internet of Things	3	1	Spr	CS305	CSE
Total		45	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	Fall	NA	DES
DS345	Sound Design	3	1	Fall	NA	DES
DS346	Anime	3	1	Fall	NA	DES
DS347	Scriptwriting	3	1	Fall	NA	DES
DS348	Illustration and Artwork	3	1	Fall	NA	DES
DS349	Game Futures	3	1	Spr	NA	DES
DS350	Character Development	3	1	Spr	NA	DES
DS351	Animation	3	1	Spr	NA	DES
DS352	Game UX	3	1	Spr	NA	DES
DS353	Game Realities: VR & AR	3	1	Spr	NA	DES
DS354	Post Production	3	1	Spr	NA	DES
DS359	Data Management Tools and Strategies	3		Spr	NA	DES
DS360	Advanced Graphics Tools and Techniques	3		Spr	NA	DES
CS312	Computer Graphics	3	1	Spr	NA	CSE
CS330	Multimedia Information Processing	3	1	Spr	NA	CSE
CS405	Machine Learning	3	1	Fall	MA103b, MA212	CSE
Total		48	14			

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	Fall	NA	DES
DS202	3D from 2	3	1	Fall	NA	DES
DS203	Additive Manufacturing	3	1	Fall	NA	DES
DS204	Responsive Systems	3	1	Fall	NA	DES
DS301	Designing Across Time & Space	3	1	Fall	NA	DES
DS302	Product Realization	3	1	Spr	NA	DES
DS303	Manufacturing Systems	3	1	Spr	NA	DES
DS402	Research Project	3	1	Fall	NA	DES
DS311	Game Survey and Evaluation	3	1	Fall	NA	DES
DS312	Making a Game	3	1	Spr	NA	DES
DS313	Sound & Senses	3	1	Spr	NA	DES
DS210	Internship 1	3	1	Spr	NA	DES
DS310	Internship 2	3	1	Spr	InternShip 1	DES
DS411	Design Entrepreneurship Project	3	3	Fall	NA	DES
DS420	Graduation Project	12	12	Spr	NA	DES
DS221	Personal System: Object	3	1	Spr	NA	DES
DS222	Personal System: Experience	3	1	Spr	NA	DES
DS223	Client Product: Object	3	1	Spr	NA	DES
DS224	Client Product: Experience	3	1	Spr	NA	DES
DS225	Circular Products: Object	3	1	Spr	NA	DES
DS226	Circular Products: Experience	3	1	Spr	NA	DES
DS321	Design Practice Management	3	1	Fall	NA	DES
DS322	UX and Interaction	3	1	Fall	NA	DES
DS323	AI in Design	3	1	Fall	NA	DES
DS324	Contemporary Design History	3	1	Fall	NA	DES
DS325	Film Production	3	1	Fall	NA	DES
DS326	Realities VR & AR	3	1	Fall	NA	DES
DS327	Immersive Experiences	3	1	Fall	NA	DES
DS328	Materiality	3	1	Fall	NA	DES

DS329	3D Modelling	3	1	Fall	NA	DES
DS110	Summer Studio	3	1	Summer	NA	DES
DS111	Special Topics in Design	1	1	Summer	NA	DES
DS333	Narrative and Branding	3	1	Fall	NA	DES
DS334	Advanced Manufacturing	3	1	Fall	NA	DES
DS335	Product UX	3	1	Fall	NA	DES
DS336	Electronics and Controls	3	1	Fall	NA	DES
DS337	Responsive Devices	3	1	Spr	NA	DES
DS338	Branding and Marketing	3	1	Spr	NA	DES
DS339	Service Design	3	1	Spr	NA	DES
DS340	Color, Materials, Finish	3	1	Spr	NA	DES
DS341	Robotic Objects	3	1	Spr	NA	DES
SDM262	Fundamentals of Materials Engineering	3	1	Fall	NA	SDIM
SDM316	Product Function and Mechanism	3	1	Fall	NA	SDIM
SDM372	Intelligent Manufacturing and Equipment	3	1	Fall	SDM232	SDIM
CS314	Internet of Things	3	1	Spr	CS305	CSE
DS344	Character Modelling	3	1	Fall	NA	DES
DS345	Sound Design	3	1	Fall	NA	DES
DS346	Anime	3	1	Fall	NA	DES
DS347	Scriptwriting	3	1	Fall	NA	DES
DS348	Illustration and Artwork	3	1	Fall	NA	DES
DS349	Game Futures	3	1	Spr	NA	DES
DS350	Character Development	3	1	Spr	NA	DES
DS351	Animation	3	1	Spr	NA	DES
DS352	Game UX	3	1	Spr	NA	DES
DS353	Game Realities: VR & AR	3	1	Spr	NA	DES
DS354	Post Production	3	1	Spr	NA	DES
CS312	Computer Graphics	3	1	Spr	NA	CSE
CS330	Multimedia Information Processing	3	1	Spr	NA	CSE
CS405	Machine Learning	3	1	Fall	MA103b, MA212	CSE
Total		187	72			

Curriculum Structure of Industrial Design (School of Design)

