School of Design

Program of Industrial Design for International Students (2020)

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.

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 and Graduation Requirements

Study length: 4 years. A 3-6 years of flexible study length is applied.

Degree conferred: Bachelor of Engineering

The minimum credit requirement for graduation: 141 credits (excluding English courses):

Category	Module	Minimum Credit Requirement
General Education (GE) Required Courses (45 credits)	Science	25
	Physical Education	4
	Chinese Languages and Culture	16
General Education (GE) Elective Courses (13 credits）)	Humanities	4
	Social Sciences	4
	Arts	2
	Science	3
Major Course (79 credits)	Major Foundational Courses	16
	Major Core Courses	14
	Major Elective Courses	33
	Research Projects, Internship and Undergraduate Thesis / Projects	16
Cognate Elective Courses		4
Total (excluding English courses)		141

IV. Discipline

Mechanical Engineering

V. Main Courses

Foundational Courses: Visual representation, 3D from 2, additive manufacturing, responsive systems, theory & history of design, ethics and social cultural systems

Core courses for Object Focus: Designing across time and space, product realization, manufacturing systems, research methods, research project

Core courses for Experience Focus: Game survey & evaluation, making a game, sound and senses, research methods, research projects

VI. Practice-Based Courses

Studio work, Internships, Entrepreneurship Project, Graduation Project, etc.

VII. Prerequisites for Major Declaration

Major Declaration Time	Course Code	Course Name	Prerequisite
Declare major at the end of First Year	MA101B	Calculus I A	NA
	PHY104B	Experiments of Fundamental Physics	NA
	CS102B	Introduction to Computer Programming B	NA
	BIO102B	Introduction to Life Science	NA
	CH101B	General Chemistry B	NA
	Note: Students should complete at least 3 out of the 5 courses listed above to declare major at the end of Year 1: 1. Students must complete MA101B, 2. Students must complete any other two courses from the rest of the list. Higher level courses on the same subjects are also acceptable.		

VIII. Requirements for GE Required Courses

(I) Science Module

Course Code	Course Name	Credit	Lab Credits	Hours/week	Term	Language Instruction	Prerequisite	Dept
MA101B	Calculus I A	4		4	1/Fall	E	NA	MATH
MA102B	Calculus II A	4		4	1/Spr	E	Calculus I A	MATH
MA107B	Linear Algebra B	4		4	1/Spr	E	NA	MATH
PHY103B	General Physics B (I)	4		4	1/Fall	E	NA	PHY
PHY105B	General Physics B (II)	4		4	1/Spr	E	General Physics B (I)	PHY
CS102B	Introduction to Computer Programming B	3	1	4	1Fall	E	NA	CSE
PHY104B	Experiments of Fundamental Physics	2	2	4	1/Spr	E	NA	PHY
Total		**25**	**3**					
Note: Higher level courses on the same subjects are also accepted.								

(II) Physical Education

Course Code	Course Name	Credits	Hours/week	Terms	Instruction language	Prerequisite	Dept.
GE131	Physical Education I	1	2	Fall	C	NA	PE Center
GE132	Physical Education II	1	2	Spr	C	NA	
GE231	Physical Education III	1	2	Fall	C	NA	
GE232	Physical Education IV	1	2	Spr	C	NA	
GE331	Physical Education V	0	/	Fall	C	NA	
GE332	Physical Education Ⅵ	0	/	Spr	C	NA	
GE431	Physical Education Ⅶ	0	/	Fall	C	NA	
GE432	Physical Education Ⅷ	0	/	Spr	C	NA	
Total		4	8				
Note: All physical education courses are general required courses. For Semester 1-4, each course(GE131.GE132,GE231,GE232) counted as 1 credit ; for semester 5-8, (GE331.GE332,GE431,GE432) are extracurricular courses with no credits. Details can be referred to Physical Education Curriculum Program of SUSTech.							

(III) Chinese Languages & Culture

Course Code	Course Name	Credit	Hours/week	Term	Language Instruction	Prerequisite	Dept.
CLE008	Elementary Chinese I	2	4	1/Fall	B	NA	CLE
CLE009	Elementary Chinese II	2	4	1/Spr	B	CLE008	
CLE027	Intermediate Chinese I	2	4	2/Fall	B	CLE009	
CLE028	Intermediate Chinese II	2	4	2/Spr	B	CLE027	
CLE031	Advanced Chinese I	2	4	3/Fall	B	CLE028	
CLE032	Advanced Chinese II	2	4	3/Spr	B	CLE031	
CLE033	Chinese Culture	2	2	Spr/Fall	B/E	NA	CLE/ HUM/ SSC
CLE034	Chinese History	2	2	Spr/Fall	B/E	NA	

(IV) English Language

Students will undertake the English Placement Test and be placed into three levels according to the result of the test and their performance in the National College Entrance Exam. Students at different levels are required to take the courses with a different credit value in total.

Level A: 6 credits; SUSTech English III, and English for Academic Purposes

Level B: 10 credits; SUSTech English II, SUSTech English III, and English for Academic Purposes

Level C: 14 credits: SUSTech English I, SUSTech English II, SUSTech English III, and English for Academic Purposes.

Course Code	Course Name	Credit	Hours/week	Instruction Language	Prerequisite	Dept
CLE021	SUSTech English I	4	4	E	NA	CLE
CLE022	SUSTech English II	4	4	E	CLE021	
CLE023	SUSTech English III	4	4	E	CLE022	
CLE030	English for Academic Purposes	2	2	E	CLE023	

IX Requirements for GE Elective Courses

(I) Students are required to complete 4 credits for the Humanities Module and Social Sciences Module respectively, and 2 credits for the Music and Art Module. (Information about the available courses and the instruction language will be announced before the course selection session)

(II) Students are required to complete 3 credits for Science Module, with at least one course coming from the following list:

Course Code	Course Name	Credit	Lab Credit	Hours/week	Term	Instruction Language	Prerequisite	Dept
BIO102B	Introduction to Life Science	3		3	Spr/ Fall	B/E	NA	BIO
CH102B	General Chemistry B	3		3	Spr/ Fall	B/E	NA	CHEM
Note: Higher level courses on the same subjects are also acceptable.								

X. Requirement for Cognate Elective Courses

To promote the integration of multiple disciplines and to encourage customization of curriculum depending on student interest and needs, a minimum of 4 credits of cognate electives needs to be completed. Students can choose from any courses other than those offered by School of Design. The only exception is Summer Studios (optional) as listed below, which can count as a cognate elective if students choose to take it.

XI. Summer Studios (Optional)

Summer studio (3 credits) is optional for students and is not part of the major electives. The course is not required for graduation. If students choose to take summer studio, the credits earned can count as cognate electives.

Course Code	Course Name	Credit	Lab Credits	Hours/week	Term	Language Instruction	Prerequisite	Dept
DS110	Summer Studio	3	3	16	Smr	E	NA	DES

XII. Major Courses Arrangement

Table 1: Major Required Courses (Foundational and Core Courses)

Course Category	Course Code	Course Name	Credits	Lab Credits	Hours/week	Terms	Advised term to take the course	language Instruction	Prerequisite	Dept.
Major Foundational Courses	DS201	Visual Representation	3	1	4	Fall	2/Fall	E	NA	DES
	DS202	3D from 2	3	1	4	Fall	2/Fall	E	NA	DES
	DS203	Additive Manufacturing	3	1	4	Fall	2/Fall	E	NA	DES
	DS204	Responsive Systems	3	1	4	Fall	2/Fall	E	NA	DES
	DS205	Theory & History of Design	2		2	Fall	2/Fall	E	NA	DES
	DS206	Ethics & Social Cultural Systems	2		2	Spr	2/Spr	E	NA	DES
	Total		16	4						
Students in Object focus take the following major core courses:										
Major Core Courses	DS301	Designing Across Time & Space	3	1	4	Fall	3/Fall	E	NA	DES
	DS302	Product Realization	3	1	4	Spr	3/Spr	E	NA	DES
	DS303	Manufacturing Systems	3	1	4	Spr	3/Spr	E	NA	DES
	DS402	Research Project	3	1	4	Fall	4/Fall	E	NA	DES
	DS401	Research Methods	2		2	Fall	4/Fall	E	NA	DES
	Total		14	4						
Students in Experience focus take the following major core courses:										
Major Core Courses	DS311	Game Survey and Evaluation	3	1	4	Fall	3/Fall	E	NA	DES
	DS312	Making a Game	3	1	4	Spr	3/Spr	E	NA	DES
	DS313	Sound & Senses	3	1	4	Spr	3/Spr	E	NA	DES
	DS402	Research Project	3	1	4	Fall	4/Fall	E	NA	DES
	DS401	Research Methods	2		2	Fall	4/Fall	E	NA	DES
	Total		14	4						
Practice	DS210	Internship 1	3	1	4	Spr	2/Spr	E	NA	DES
	DS310	Internship 2	3	1	4	Spr	3/Spr	E	Intern-Ship 1	DES
	DS410	Entrepreneurship Project	2	2	4	Fall	4/Fall	E	NA	DES
	DS420	Graduation Project	8	8	16	Spr	4/Spr	E	NA	DES
	Total (per focus)		46	20						

Table 2: Major Elective Courses

Course Category	Course Code	Course Name	Credit	Lab Credits	Hours/week	Term	Advised term to take the course	Instruction language	Prerequisite	Dept.
Students take 1 course from each of the following series: Personal System, Client Product and Circular Products (9 credits):										
Major Common Elective Courses	DS221	Personal System: Object	3	1	4	Spr	2/Spr	E	NA	DES
	DS222	Personal System: Experience	3	1	4	Spr	2/Spr	E	NA	DES
	DS223	Client Product: Object	3	1	4	Spr	2/Spr	E	NA	DES
	DS224	Client Product: Experience	3	1	4	Spr	2/Spr	E	NA	DES
	DS225	Circular Products: Object	3	1	4	Spr	2/Spr	E	NA	DES
	DS226	Circular Products: Experience	3	1	4	Spr	2/Spr	E	NA	DES
	Total		**18**	**6**						
Students complete any two 3-credit courses and two 2-credit courses from the following list (10 credits):										
Major Common Elective Courses	DS101	Introduction to Design	2		2	Spr/ Fall	1	E	NA	DES
	DS321	Design Practice Management	3	1	4	Fall	3/Fall	E	NA	DES
	DS322	UX and Interaction	3	1	4	Fall	3/Fall	E	NA	DES
	DS323	AI in Design	3	1	4	Fall	3/Fall	E	NA	DES
	DS324	Contemporary Design History	3	1	4	Fall	3/Fall	E	NA	DES
	DS325	Film Production	3	1	4	Fall	3/Fall	E	NA	DES
	DS326	Realities VR & AR	3	1	4	Fall	3/Fall	E	NA	DES
	DS327	Immersive Experiences	3	1	4	Fall	3/Fall	E	NA	DES
	DS328	Materiality	3	1	4	Fall	3/Fall	E	NA	DES
	DS329	3D Modelling	3	1	4	Fall	3/Fall	E	NA	DES
	DS331	Narrative and Cognition	2		2	Fall	3/Fall	E	NA	DES
	DS332	Service Design Introduction	2		2	Fall	3/Fall	E	NA	DES
	Total		**33**	**9**						
Students in Object focus complete any four 3-credit courses and one 2-credit course from the following list (14 credits):										
Major Focus Elective Courses	DS333	Narrative and Branding	3	1	4	Fall	3/4	E	NA	DES
	DS334	Advanced Manufacturing	3	1	4	Fall	3/4	E	NA	DES
	DS335	Product UX	3	1	4	Fall	3/4	E	NA	DES
	DS336	Electronics and Controls	3	1	4	Fall	3/4	E	NA	DES
	DS337	Responsive Devices	3	1	4	Spr	3/4	E	NA	DES
	DS338	Branding and Marketing	3	1	4	Spr	3/4	E	NA	DES
	DS339	Service Design	3	1	4	Spr	3/4	E	NA	DES

	DS340	Color, Materials, Finish	3	1	4	Spr	3/4	E	NA	DES
	DS341	Robotic Objects	3	1	4	Spr	3/4	E	NA	DES
	DS342	Design & Industrial Practices	2		2	Spr	3/Spr	E	NA	DES
	DS343	Product Philosophies in Design	2		2	Spr	3/Spr	E	NA	DES
	SDM262	Fundamentals of Materials Engineering	3	1	4	Fall	3/4	B	NA	SDIM
	SDM316	Product Function and Mechanism	3	1	4	Fall	3/4	B	NA	SDIM
	SDM372	Intelligent Manufacturing and Equipment	3	1	4	Fall	3/4	E	SDM232	SDIM
	CS314	Internet of Things	3	1	4	Spr	3/4	E	CS305	CSE
	Total		**40**	**12**						
Students in Experience focus complete any four 3-credit courses and one 2-credit course from the following list (14 credits):										
Major Focus Elective Courses	DS344	Character Modelling	3	1	4	Fall	3/4	E	NA	DES
	DS345	Sound Design	3	1	4	Fall	3/4	E	NA	DES
	DS346	Anime	3	1	4	Fall	3/4	E	NA	DES
	DS347	Scriptwriting	3	1	4	Fall	3/4	E	NA	DES
	DS348	Illustration and Artwork	3	1	4	Fall	3/4	E	NA	DES
	DS349	Game Futures	3	1	4	Spr	3/4	E	NA	DES
	DS350	Character Development	3	1	4	Spr	3/4	E	NA	DES
	DS351	Animation	3	1	4	Spr	3/4	E	NA	DES
	DS352	Game UX	3	1	4	Spr	3/4	E	NA	DES
	DS353	Game Realities: VR & AR	3	1	4	Spr	3/4	E	NA	DES
	DS354	Post Production	3	1	4	Spr	3/4	E	NA	DES
	DS355	Data Management	2		2	Spr	3/Spr	E	NA	DES
	DS356	Advanced Graphics	2		2	Spr	3/Spr	E	NA	DES
	CS312	Computer Graphics	3	1	4	Spr	3/4	E	NA	CSE
	CS330	Multimedia Information Processing	3	1	4	Spr	3/4	B	NA	CSE
	CS405	Machine Learning	3	1	4	Fall	3/4	E	MA103b, MA212	CSE
	Total		**42**	**14**						

Table 3: Overview of Practice-Based Courses

Course Code	Course Name	Credit	Lab Credits	Hours/week	Term	Advised term to take the course	Instruction language	Prerequisite	Dept.
DS201	Visual Representation	3	1	4	Fall	2/Fall	E	NA	DES
DS202	3D from 2	3	1	4	Fall	2/Fall	E	NA	DES
DS203	Additive Manufacturing	3	1	4	Fall	2/Fall	E	NA	DES
DS204	Responsive Systems	3	1	4	Fall	2/Fall	E	NA	DES
DS301	Designing across time & space	3	1	4	Fall	3/Fall	E	NA	DES
DS302	Product Realization	3	1	4	Spr	3/Spr	E	NA	DES
DS303	Manufacturing Systems	3	1	4	Spr	3/Spr	E	NA	DES
DS402	Research Project	3	1	4	Fall	4/Fall	E	NA	DES
DS311	Game Survey and Evaluation	3	1	4	Fall	3/Fall	E	NA	DES
DS312	Making a Game	3	1	4	Spr	3/Spr	E	NA	DES
DS313	Sound & Senses	3	1	4	Spr	3/Spr	E	NA	DES
DS221	Personal System: Object	3	1	4	Spr	2/Spr	E	NA	DES
DS222	Personal System: Experience	3	1	4	Spr	2/Spr	E	NA	DES
DS223	Client Product: Object	3	1	4	Spr	2/Spr	E	NA	DES
DS224	Client Product: Experience	3	1	4	Spr	2/Spr	E	NA	DES
DS225	Circular Products: Object	3	1	4	Spr	2/Spr	E	NA	DES
DS226	Circular Products: Experience	3	1	4	Spr	2/Spr	E	NA	DES
DS321	Design Practice Management	3	1	4	Fall	3/Fall	E	NA	DES
DS322	UX and Interaction	3	1	4	Fall	3/Fall	E	NA	DES
DS323	AI in Design	3	1	4	Fall	3/Fall	E	NA	DES
DS324	Contemporary Design History	3	1	4	Fall	3/Fall	E	NA	DES
DS325	Film Production	3	1	4	Fall	3/Fall	E	NA	DES
DS326	Realities VR & AR	3	1	4	Fall	3/Fall	E	NA	DES
DS327	Immersive Experiences	3	1	4	Fall	3/Fall	E	NA	DES
DS328	Materiality	3	1	4	Fall	3/Fall	E	NA	DES
DS329	3D Modelling	3	1	4	Fall	3/Fall	E	NA	DES
DS333	Narrative and Branding	3	1	4	Fall	3/4	E	NA	DES
DS334	Advanced Manufacturing	3	1	4	Fall	3/4	E	NA	DES
DS335	Product UX	3	1	4	Fall	3/4	E	NA	DES
DS336	Electronics and Controls	3	1	4	Fall	3/4	E	NA	DES
DS337	Responsive Devices	3	1	4	Spr	3/4	E	NA	DES

DS338	Branding and Marketing	3	1	4	Spr	3/4	E	NA	DES
DS339	Service Design	3	1	4	Spr	3/4	E	NA	DES
DS340	Color, Materials, Finish	3	1	4	Spr	3/4	E	NA	DES
DS341	Robotic Objects	3	1	4	Spr	3/4	E	NA	DES
DS342	Character Modelling	3	1	4	Fall	3/4	E	NA	DES
DS343	Sound Design	3	1	4	Fall	3/4	E	NA	DES
DS346	Anime	3	1	4	Fall	3/4	E	NA	DES
DS347	Scriptwriting	3	1	4	Fall	3/4	E	NA	DES
DS348	Illustration and Artwork	3	1	4	Fall	3/4	E	NA	DES
DS349	Game Futures	3	1	4	Spr	3/4	E	NA	DES
DS350	Character Development	3	1	4	Spr	3/4	E	NA	DES
DS351	Animation	3	1	4	Spr	3/4	E	NA	DES
DS352	Game UX	3	1	4	Spr	3/4	E	NA	DES
DS353	Game Realities: VR & AR	3	1	4	Spr	3/4	E	NA	DES
DS354	Post Production	3	1	4	Spr	3/4	E	NA	DES
SDM 262	Fundamentals of Materials Engineering	3	1	4	Fall	3/4	B	NA	SDIM
SDM 316	Product Function and Mechanism	3	1	4	Fall	3/4	B	NA	SDIM
SDM 372	Intelligent Manufacturing and Equipment	3	1	4	Fall	3/4	E	SDM232	SDIM
CS314	Internet of Things	3	1	4	Spr	3/4	E	CS 305	CSE
CS312	Computer Graphics	3	1	4	Spr	3/4	E	NA	CSE
CS330	Multimedia Information Processing	3	1	4	Spr	3/4	B	NA	CSE
CS405	Machine Learning	3	1	4	Fall	3/4	E	MA103b, MA212	CSE
DS210	Internship 1	3	1	4	Spr	2/Spr	E	NA	DES
DS310	Internship 2	3	1	4	Spr	3/Spr	E	Internship 1	DES
DS410	Entrepreneurship Project	2	2	4	Fall	4/Fall	E	NA	DES
DS420	Graduation Project	8	8	16	Spr	4/Spr	E	NA	DES
DS110	Summer Studio	3	3	16	Smr	1/2/3/ Smr	E	NA	DES
Total		175	67						

Table 4: Overview of Course Hours and Credits

Course Category	Total Course Hours	Total Credits	Credit Requirements	Percentage of the Total*
General Education (GE) Required Courses (excluding English courses)		45	45	31.91%
General Education (GE) Elective Courses			13	9.22%
Major Foundational Courses	320	16	16	11.35%
Major Core Courses	288	14	14	9.93%
Major Elective Courses	2912	136	33	23.40%
Research Projects, Internship and Undergraduate Thesis/Projects	448	16	16	11.35%
Cognate Elective Courses	64	4	4	2.84%
Total (excluding English courses)			141	100.00%

***** Percentage of the total= Credit requirements of each line / Total credit requirements

Curriculum Structure of Industrial Design (School of Design)