School of System Design and Intelligent Manufacturing

Program of Industrial Design for International Students (2022)

I. Introduction

The industrial design (ID) major is based on Southern University of Science and Technology (SUSTech), serving Shenzhen, and cultivating high-level and international innovative industrial design leaders across the country to meet the demand for high-end innovative and creative design talents in the Guangdong-Hong Kong-Macao Greater Bay Area, and to help improve the urban cultural soft power and industrial core competitiveness, promote the high-quality development of the innovative industrial design industry, and the construction of an international cultural innovation and creative pioneer city.

This major makes full use of the characteristics of SUSTech and the advantages of the new engineering education （NEE） model of the School of System Design and Intelligent Manufacturing (SDIM), to cultivate high-level, international, and wide-ranging industrial design professionals. SDIM emphasizes student-centered, project-based teaching and learning, multi-disciplinary integration, learning by doing, and focuses on cultivating students' self-learning ability, interdisciplinary knowledge application ability and teamwork ability. Guided by this, the constructions of the curriculum, the professional team for teaching, the professional practice teaching conditions, and the professional teaching management system are carried out, so as to promote the coordinated development of professional construction, make full use of social resources to improve students' practical ability.

The ID major includes the study of product design theory and method, design thinking and system thinking, art and aesthetics, materials and manufacturing process, intelligent manufacturing and advanced design technology and tools, human-computer engineering, interaction and experience design, computing design and design methods. The content covers the training of students' common design thinking in different industries after taking office in the future, as well as the training of corresponding design technologies for different industries. Learning and creation will explore design themes including but not limited to: life aesthetics and culture, smart home, health care, smart equipment and fashion, etc. Academic subject areas: Mechanical

Program code: 080205

II. Objectives and Learning Outcomes

1. Objectives

The ID major is oriented to the future development of innovative industrial design, focusing on national strategic development on intelligent manufacturing and other fields and cultivating a solid theoretical foundation of industrial design and distinctive professional knowledge with international vision, design thinking ability and system thinking ability, having multidisciplinary knowledge application ability, user and market research ability, mastering product development processes and methods, being familiar with project management and system operation, having a sense of social responsibility and teamwork spirit, and being able to engage in innovative design of industrial products in enterprises and institutions, professional design institutions and scientific research units and related service model and business model design, human-computer interaction design, sustainable development design and other fields of development, research, planning, education and management of composite industrial design leading talents.

2. Learning Outcomes

This major aims to cultivate students who have solid basic theories and knowledge of industrial design, have distinct professional expertise, can systematically master the principles, procedures, modern design, expression methods, forms, structures, material selection and other design means of industrial design, and can use professional knowledge and tools to deal with the relationship between industrial design and environment, users, market, functions, shapes, colors, structures, materials and processes, be able to engage in various product development and design. The students will have a strong practical ability in the fields of high-end equipment, intelligent products and interaction, health care, cultural creativity and social innovation.

Graduates should acquire the following knowledge and abilities:1. have good ID professional ethics, rigorous and realistic scientific attitude, firm pursuit of innovation and excellence, strong patriotism and professionalism, social responsibility and rich humanistic and artistic literacy;

2. have the knowledge of natural science and social science required for ID, and understand the relevant technical and social development trends;3. systematically master broad basic theoretical knowledge (including mathematics, physics, machinery, automation, electronics, computers, etc.), as well as professional knowledge in ID, mainly including design thinking and engineering, fundamentals of ID, product design visualization, industrial design history, ergonomics, advanced material technology, computer simulation and design, aesthetics and design psychology, system design and management, etc.;

4. have balanced engineering knowledge base and disciplinary expertise;

5. have strong design performance skills, hands-on ability, aesthetic appreciation and creativity, and strong

computer, Internet, multimedia and foreign language application skills;

6. have the ability to analyze, raise and solve problems on the basis of understanding the needs of society and consumers, and be able to participate in the planning, design, operation and maintenance of the whole life cycle of products or services;7. have strong information acquisition and career development learning ability, understand the development trend and theoretical frontier of ID;

8. have good design and management ability, communication ability between different disciplines, team cooperation ability and ability to deal with crises and emergencies;9. have a certain international vision and preliminary ability to communicate, compete and cooperate in a cross-cultural environment.

III. Normal Duration of Study, Degree Awarded, and Graduation Credit Requirements

1. Normal duration of study: 4 years. In accordance with the credit system management mechanism, flexible study years shall be implemented, but not less than 3 years or more than 6 years.

2. Degree conferred: Students who have completed 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: 170 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	3
Major Courses	Major Required Courses	Major Foundational Courses	25
		Major Core Courses	28
		Practice-based Learning (Undergraduate Thesis, Internships, Research projects, etc.)	16

	Major Elective Courses	Major Elective Courses	15
Total			164
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	MA117	Calculus I	4	1 Fall	None	Department of Mathematics
	MA127	Calculus II	4	1Spring	Calculus I	
	MA113	Linear Algebra	4	1 Spring &Fall	None	
Physics	PHY105	College Physics I	4	1 Fall	None	Department of Physics
	PHY106	College Physics II	4	1 Spring	General Physics I	
	PHY104B	Experiments of Fundamental Physics	2	1-2 Spring &Fall	None	
Chemistry	CH105	Chemistry: The Central Science	3	1-2 Spring &Fall	None	Department of Chemistry
Biology	BIO102B	Introduction to Life Science	3	1-2 Spring &Fall	None	Department of Biology
Computer Programming	CS112	Introduction to Python Programming	3	1-2 Spring &Fall	None	Department of Computer Science and Engineering

Note 1: Calculus I and II can be replaced by Mathematical Analysis I and II.
Note 2: Linear Algebra can be replaced by Advanced Linear Algebra I.
Note 3: College Physics I and II can be replaced by General Physics I and II.
Note 4: Chemistry: The Central Science can be replaced by General Chemistry.
Note 5: Introduction to life sciences can be replaced by Principles of Biology.
Note 6: Introduction to Python Programming can be replaced by Introduction to Computer Programming.
Note 7: The above alternative courses are also applicable to the " Prerequisites for Major Declaration ".
Note 8: The above alternative courses also apply to the prerequisite course requirements.

V. Prerequisites for Major Declaration

Major Declaration Time	Course Code	Course Name	Prerequisite
Declare major at the end of the first academic year	MA117	Calculus I	None
	MA127	Calculus II	Calculus I
	MA113	Linear Algebra	None
	PHY105	College Physics I	None
	PHY106	College Physics II	General Physics I
	CS112	Introduction to Python Programming	None
Declare major at the end of the second academic	MA117	Calculus I	None
	MA127	Calculus II	Calculus I
	MA113	Linear Algebra	None

	PHY105	College Physics I	None
year	PHY106	College Physics II	General Physics I
	CS112	Introduction to Python Programming	None
	PHY104B	Experiments of Fundamental Physics	None
	CH105	Chemistry: The Central Science	None
	BIO102B	Introduction to Life Science	None
	SDM114	Product Design Visualization	None

Note:

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	SDM101	Introduction of Integrative System Design	4	3	1 Summer	None	School of System Design and Intelligent Manufacturing
	SDM242	Analog Circuits System Design	4	2	2 Fall	College Physics II	School of System Design and Intelligent Manufacturing
	SDM262	Fundamentals of Materials Engineering	3	1	2 Fall	None	School of System Design and Intelligent Manufacturing
	SDM272	Rapid Prototyping Techniques	3	2	2 Fall	Introduction to Python Programming	School of System Design and Intelligent Manufacturing
	SDM214	Fundamentals of Industrial Design	3	1	2 Spring	None	School of System Design and Intelligent Manufacturing
	SDM213	Industrial Design History	3	1	2 Spring	None	School of System Design and Intelligent Manufacturing
	SDM283	Mechanics for Design	3	1	2 Spring	Calculus II	School of System Design and Intelligent Manufacturing
	SDM321	Quality Engineering and	2	1	3 Spring	None	School of System Design and Intelligent

			Credits	Practice-based Learning Credits	Terms	Prerequisite	Dept.
		Management					Manufacturing
	Total		25	12			
Major Core Courses	SDM212	Design Thinking and Engineering	3	1	2 Fall	None	School of System Design and Intelligent Manufacturing
	SDM232	Mechanical Design and Manufacturing I	3	1	2 Fall	None	School of System Design and Intelligent Manufacturing
	SDM215	Aesthetics and Design Psychology	2	1	2 Spring	None	School of System Design and Intelligent Manufacturing
	SDM223	System Design and Management	2	1	2 Spring	None	School of System Design and Intelligent Manufacturing
	SDM352	Computer Simulation and Design	3	1	3 Fall	None	School of System Design and Intelligent Manufacturing
	SDM312	Product Design	3	2	3 Fall	Product Design Visualization	School of System Design and Intelligent Manufacturing
	SDM314	Fundamentals of Control Engineering and Design	3	1	3 Fall	Mechanics for Design	School of System Design and Intelligent Manufacturing
	SDM354	Human Factors Engineering	3	1	3 Fall	Introduction to Python Programming	School of System Design and Intelligent Manufacturing
	SDM313	Design for Intelligent Manufacturing	3	1	3 Spring	None	School of System Design and Intelligent Manufacturing
	SDM315	Computational Design	3	1	3 Spring	Computer Simulation and Design	School of System Design and Intelligent Manufacturing
	Total		28	11			
Practice-based Courses	SDM402	Innovation Design Practice I	2	2	3 Summer & 4 Fall	None	School of System Design and Intelligent Manufacturing
	SDM404	Innovation Design Practice II	2	2	3 Summer & 4 Fall	None	School of System Design and Intelligent Manufacturing
	SDM491	Capstone	12	12	3 Spring	None	School of System Design and Intelligent Manufacturing
	Total		16	16			
	Total		69	39			
Note:							

Table 2: Major Elective Courses

Program of Industrial Design

Course Code	Course Name	Credits	Practice-based Learning Credits	Terms	Prerequisite	Dept.
SDM116	Experience Design	2	1	1 Spring	None	School of System Design and

						Intelligent Manufacturing
SDM316	Product Function and Mechanism	3	1	3 Fall	None	School of System Design and Intelligent Manufacturing
SDM318	Interactive Media Design	3	1	3 Fall	None	School of System Design and Intelligent Manufacturing
SDM392	Virtual Product Design and Analysis	3	1	3 Fall	None	School of System Design and Intelligent Manufacturing
SDM394	Information Design	3	1	3 Fall	None	School of System Design and Intelligent Manufacturing
SDM396	Product Innovation Design	3	1	3 Fall	Product Design Visualization	School of System Design and Intelligent Manufacturing
SDM391	Interactive Design	3	1	3 Fall	Product Design Visualization	School of System Design and Intelligent Manufacturing
SDM395	Product System Design	3	1	3 Spring	Product Design Visualization	School of System Design and Intelligent Manufacturing
SDM317	Product Packaging and Advertising Design	3	1	3 Spring	Product Design Visualization	School of System Design and Intelligent Manufacturing
SDM319	Product Branding and Entrepreneurship	3	1	3 Spring	Product Design Visualization	School of System Design and Intelligent Manufacturing
SDM393	New Product Development and Design	3	1	3 Spring	None	School of System Design and Intelligent Manufacturing
SDM412	Wearable Technology and Design	3	1	3-4 Fall	Design Thinking and Engineering	School of System Design and Intelligent Manufacturing
SDM414	Industrial Design Professional Practices	3	1	3-4 Fall	Had got 100 credits and had finished at least 2 design stream major elective courses.	School of System Design and Intelligent Manufacturing
ME313	Product Design Practice	2	2	3 Spring & Summer	Mechanical Design and Manufacturing I	Department of Mechanical and Energy Engineering
ME405	Innovative Design Theory and Practice	3	1	4 Fall	Product Design Practice	Department of Mechanical and Energy Engineering
Above courses are the design stream major elective		43	16			

	courses.					
SDM372	Intelligent Manufacturing and Equipment	3	1	3 Fall	Mechanical Design and Manufacturing I	School of System Design and Intelligent Manufacturing
SDM374	Machine Learning System Design [1]	3	1	3 Fall	Linear Algebra	School of System Design and Intelligent Manufacturing
SDM371	Big Data [2]	3	1	3 Fall	Linear Algebra	School of System Design and Intelligent Manufacturing
SDM376	Introduction to Internet of Things [3]	3	1	3 Fall	Introduction to Python Programming, Calculus II, Linear Algebra	School of System Design and Intelligent Manufacturing
SDM378	Computer Vision and Application [4]	3	1	3 Fall	Introduction to Python Programming, Calculus II, Linear Algebra	School of System Design and Intelligent Manufacturing
SDM375	Intelligent Robot Design	3	1	3 Spring	Introduction to Python Programming	School of System Design and Intelligent Manufacturing
SDM373	Sensor and Intelligent Detection Technology	3	1	3 Spring	None	School of System Design and Intelligent Manufacturing
SDM5002	Intelligent Sensing Systems in Mobile Robots	3	1	3 Spring	Introduction to Python Programming, Fundamental of Electric Circuits	School of System Design and Intelligent Manufacturing
SDM472	Additive Manufacturing Technology	3	1	4 Fall	Mechanical Design and Manufacturing I	School of System Design and Intelligent Manufacturing
SDM474	Advanced Design-Manufacture Integrated Technique	3	1	3-4 Fall	Fundamentals of materials Engineering, Mechanics for Design	School of System Design and Intelligent Manufacturing
SDM476	Foundation of AI-NOT	3	0	3-4 Fall	None	School of System Design and Intelligent Manufacturing
SDM471	AR / VR and Its Application	3	1	4 Spring	Introduction to Python Programming	School of System Design and Intelligent Manufacturing
Above courses are the intelligent manufacturing stream major elective courses.		36	11			
MA212	Probability and Statistics	3	0	2 Fall	Calculus II	Department of Mathematics
MA201b	Ordinary Differential Equations B	4	0	2 Sprig & Fall	Calculus II	Department of Mathematics
SDM362	Mechanics of Materials	3	1	3 Fall	Calculus II	School of System Design and

						Intelligent Manufacturing
MAE305	Engineering Thermodynamics	3	0	3 Spring & Fall	Calculus II	Department of Mechanics and Aerospace Engineering
ME301	Dynamics and Vibration	3	1	3 Spring & Fall	Ordinary Differential Equations B, Engineering Mechanics I – Statics and Dynamics	Department of Mechanical and Energy Engineering
ME306	Fundamentals of Robotics	3	1	3 Spring & Fall	Mechanical Design and Manufacturing I, Fundamentals of Control Engineering and Design	Department of Mechanical and Energy Engineering
Above courses are the mechanical engineering stream major elective courses.		19	3			
EE104	Fundamental of Electric Circuits	2	0	1 Spring	Calculus I, Linear Algebra	Department of Electronic and Electrical Engineering
EE208	Engineering Electromagnetics	3	1	2 Spring	Fundamental of Electric Circuits, Linear Algebra	Department of Electronic and Electrical Engineering
EE313	Wireless Communications	3	1	3 Fall	Communication Principles	Department of Electronic and Electrical Engineering
EE205	Signal and System	3	1	2 Fall	Calculus II	Department of Electronic and Electrical Engineering
SDM342	Digital Circuits System Design	4	2	3 Fall	Analog Circuits System Design	School of System Design and Intelligent Manufacturing
EE326	Digital Image Processing	3	1	3 Spring	Signal and System	Department of Electronic and Electrical Engineering
EE206	Communication Principles	3	1	2 Spring	Signal and System	Department of Electronic and 1Electrical Engineering
EE312	Design of Modern Communication System	3	1	3 Spring	Communication Principles, Wireless Communications	Department of Electronic and Electrical Engineering
Above courses are the electronic and electrical engineering stream major elective courses.		24	8			
CS207	Digital Logic	3	1	2 Fall	None	Department of Computer Science and Engineering

CS203	Data Structures and Algorithm Analysis	3	1	2 Fall	Introduction to Computer Programming	Department of Computer Science and Engineering
CS203B	Data Structures and Algorithm Analysis B	3	1	2 Fall	Introduction to Computer Programming	Department of Computer Science and Engineering
CS301	Embedded System and Microcomputer Principle	3	1	3 Fall	Digital Logic	Department of Computer Science and Engineering
CS305	Computer Networks	3	1	3 Fall	Introduction to Computer Programming	Department of Computer Science and Engineering
SDM356	Object-oriented Analysis and Achieve [5]	3	1	3 Fall	Introduction to Python Programming	School of System Design and Intelligent Manufacturing
CS304	Software Engineering	3	1	3 Spring	Introduction to Computer Programming, Data Structures and Algorithm Analysis	Department of Computer Science and Engineering
SDM353	Computer Algorithm [6]	3	1	3 Spring	Introduction to Python Programming	School of System Design and Intelligent Manufacturing
SDM355	Computer Operation System and Application [7]	3	1	3 Spring	Introduction to Python Programming	School of System Design and Intelligent Manufacturing
Above courses are the computer science and engineering stream major elective courses.		27	9			
MSE203	Crystallography	2	0	2 Fall	Calculus II, Linear Algebra, College Physics II	Department of Materials Science and Engineering
MSE002	Experience for Fundamental of Material Science and Engineering	1	1	2 Fall	Fundamentals of Materials Engineering	Department of Materials Science and Engineering
MSE313	Polymer Materials	3	0	2 Spring	Fundamentals of Materials Engineering, Experience for Fundamental of Material Science and Engineering	Department of Materials Science and Engineering
MSE306	Material Characterization	3	0	2 Spring	Fundamentals of Materials Engineering, Experience for Fundamental of Material Science and Engineering	Department of Materials Science and Engineering
MSE301	Materials Chemistry	3	0	3 Fall	Fundamentals	Department of

Course Code	Course Name	Credits		Terms	Prerequisite	Dept.
					of Materials Engineering, Experience for Fundamental of Material Science and Engineering	Materials Science and Engineering
MSE328	Physics of Materials	3	0	3 Spring	Fundamentals of Materials Engineering, Crystallography	Department of Materials Science and Engineering
MSE310	Semiconducting Materials, Devices and Technology	3	0	3 Spring	Fundamentals of Materials Engineering	Department of Materials Science and Engineering
Above courses are the computer science and engineering stream major elective courses.		18	1			
Total		167	48			

Note：

[1] SDM374 Machine Learning System Design can be used as an elective course for computer science and engineering stream at the same time.

[2] SDM371 Big Data can be used as an elective course for computer science and engineering stream at the same time.

[3] SDM376 Introduction to Internet of Things can be replaced by course CS314 Internet of Things.

[4] SDM378 Computer Vision and Application can be replaced by course CS308 Computer Vision.

[5] SDM356 Object-oriented Analysis and Achieve can be replaced by course CS309 Object-oriented Analysis and Design.

[6] SDM353 Computer Algorithm can be replaced by course CS208 Algorithm Design and Analysis.

[7] SDM355 Computer Operation System and Application can be replaced by CS302 Operation System.

Table 3: Overview of Practice-based Learning

Program of Industrial Design

Course Code	Course Name	Credits	Practice-based Learning Credits	Terms	Prerequisite	Dept.
SDM114	Product Design Visualization	3	1	1 Spring & Fall	None	School of System Design and Intelligent Manufacturing
SDM116	Experience Design	2	1	1 Spring	None	School of System Design and Intelligent Manufacturing
SDM101	Introduction of Integrative System Design	4	3	1 Summer	None	School of System Design and Intelligent Manufacturing
SDM212	Design Thinking and Engineering	3	1	2 Fall	None	School of System Design and Intelligent Manufacturing
SDM232	Mechanical Design and Manufacturing I	3	1	2 Fall	None	School of System Design and Intelligent Manufacturing
SDM242	Analog Circuits System Design	4	2	2 Fall	College Physics II	School of System Design and Intelligent Manufacturing

SDM262	Fundamentals of Materials Engineering	3	1	2 Fall	None	School of System Design and Intelligent Manufacturing
SDM272	Rapid Prototyping Techniques	3	2	2 Fall	Introduction to Python Programming	School of System Design and Intelligent Manufacturing
CS207	Digital Logic	3	1	2 Fall	None	Department of Computer Science and Engineering
CS203	Data Structures and Algorithm Analysis	3	1	2 Fall	Introduction to Computer Programming	Department of Computer Science and Engineering
CS203B	Data Structures and Algorithm Analysis B	3	1	2 Fall	Introduction to Computer Programming	Department of Computer Science and Engineering
MSE002	Experience for Fundamental of Material Science and Engineering	1	1	2 Fall	Fundamentals of Materials Engineering	Department of Materials Science and Engineering
EE205	Signal and System	3	1	2 Fall	Calculus II	Department of Electronic and Electrical Engineering
SDM283	Mechanics for Design	3	1	2 Spring	Calculus II	School of System Design and Intelligent Manufacturing
SDM215	Aesthetics and Design Psychology	2	1	2 Spring	None	School of System Design and Intelligent Manufacturing
SDM213	Industrial Design History	3	1	2 Spring	None	School of System Design and Intelligent Manufacturing
SDM214	Fundamentals of Industrial Design	3	1	2 Spring	None	School of System Design and Intelligent Manufacturing
EE206	Communication Principles	3	1	2 Spring	Signal and System	Department of Electronic and 1Electrical Engineering
EE208	Engineering Electromagnetics	3	1	2 Spring	Fundamental of Electric Circuits, Linear Algebra	Department of Electronic and Electrical Engineering
SDM223	System Design and Management	2	1	2 Spring	None	School of System Design and Intelligent Manufacturing
SDM354	Human Factors Engineering	3	1	3 Fall	Introduction to Python Programming	School of System Design and Intelligent Manufacturing
SDM318	Interactive Media Design	3	1	3 Fall	None	School of System Design and Intelligent Manufacturing
SDM362	Mechanics of	3	1	3 Fall	Calculus II	School of System

Code	Course Name				Prerequisite	Department
	Materials					Design and Intelligent Manufacturing
SDM314	Fundamentals of Control Engineering and Design	3	1	3 Fall	Mechanics for Design	School of System Design and Intelligent Manufacturing
EE313	Wireless Communications	3	1	3 Fall	Communication Principles	Department of Electronic and Electrical Engineering
SDM342	Digital Circuits System Design	4	2	3 Fall	Analog Circuits System Design	School of System Design and Intelligent Manufacturing
SDM352	Computer Simulation and Design	3	1	3 Fall	None	Computer Simulation and Design
SDM312	Product Design	3	2	3 Fall	Product Design Visualization	School of System Design and Intelligent Manufacturing
SDM392	Virtual Product Design and Analysis	3	1	3 Fall	None	School of System Design and Intelligent Manufacturing
SDM396	Product Innovation Design	3	1	3 Fall	Product Design Visualization	School of System Design and Intelligent Manufacturing
SDM316	Product Function and Mechanism	3	1	3 Fall	None	School of System Design and Intelligent Manufacturing
SDM394	Information Design	3	1	3 Fall	None	School of System Design and Intelligent Manufacturing
SDM372	Intelligent Manufacturing and Equipment	3	1	3 Fall	Mechanical Design and Manufacturing I	School of System Design and Intelligent Manufacturing
SDM374	Machine Learning System Design	3	1	3 Fall	Linear Algebra	School of System Design and Intelligent Manufacturing
SDM376	Introduction to Internet of Things	3	1	3 Fall	Introduction to Python Programming, Calculus II, Linear Algebra	School of System Design and Intelligent Manufacturing
SDM378	Computer Vision and Application	3	1	3 Fall	Introduction to Python Programming, Calculus II, Linear Algebra	School of System Design and Intelligent Manufacturing
CS301	Embedded System and Microcomputer Principle	3	1	3 Fall	Digital Logic	Department of Computer Science and Engineering
CS305	Computer Networks	3	1	3 Fall	Introduction to Computer Programming	Department of Computer Science and Engineering

SDM356	Object-oriented Analysis and Achieve	3	1	3 Fall	Introduction to Python Programming	School of System Design and Intelligent Manufacturing
SDM371	Big Data	3	1	3 Fall	Linear Algebra	School of System Design and Intelligent Manufacturing
SDM391	Interactive Design	3	1	3 Fall	Product Design Visualization	School of System Design and Intelligent Manufacturing
SDM313	Design for Intelligent Manufacturing	3	1	3 Spring	None	School of System Design and Intelligent Manufacturing
SDM375	Intelligent Robot Design	3	1	3 Spring	Introduction to Python Programming	School of System Design and Intelligent Manufacturing
SDM373	Sensor and Intelligent Detection Technology	3	1	3 Spring	None	School of System Design and Intelligent Manufacturing
SDM395	Product System Design	3	1	3 Spring	Product Design Visualization	School of System Design and Intelligent Manufacturing
SDM317	Product Packaging and Advertising Design	3	1	3 Spring	Product Design Visualization	School of System Design and Intelligent Manufacturing
SDM319	Product Branding and Entrepreneurship	3	1	3 Spring	Product Design Visualization	School of System Design and Intelligent Manufacturing
ME313	Product Design Practice	2	2	3 Spring & Summer	Mechanical Design and Manufacturing I	Department of Mechanical and Energy Engineering
SDM5002	Intelligent Sensing Systems in Mobile Robots	3	1	3 Spring	Introduction to Python Programming, Fundamental of Electric Circuits	School of System Design and Intelligent Manufacturing
SDM393	New Product Development and Design	3	1	3 Spring	None	School of System Design and Intelligent Manufacturing
SDM321	Quality Engineering and Management	2	1	3 Spring	None	School of System Design and Intelligent Manufacturing
ME301	Dynamics and Vibration	3	1	3 Spring & Fall	Ordinary Differential Equations B, Engineering Mechanics I – Statics and Dynamics	Department of Mechanical and Energy Engineering
ME306	Fundamentals of Robotics	3	1	3 Spring & Fall	Mechanical Design and	Department of Mechanical and

					Manufacturing I, Fundamentals of Control Engineering and Design	Energy Engineering
SDM315	Computational Design	3	1	3 Spring	Computer Simulation and Design	School of System Design and Intelligent Manufacturing
EE326	Digital Image Processing	3	1	3 Spring	Signal and System	Department of Electronic and Electrical Engineering
EE312	Design of Modern Communication System	3	1	3 Spring	Communication Principles, Wireless Communications	Department of Electronic and Electrical Engineering
CS304	Software Engineering	3	1	3 Spring	Introduction to Computer Programming, Data Structures and Algorithm Analysis	Department of Computer Science and Engineering
SDM353	Computer Algorithm	3	1	3 Spring	Introduction to Python Programming	School of System Design and Intelligent Manufacturing
SDM355	Computer Operation System and Application	3	1	3 Spring	Introduction to Python Programming	School of System Design and Intelligent Manufacturing
SDM412	Wearable Technology and Design	3	1	3-4 Fall	Design Thinking and Engineering	School of System Design and Intelligent Manufacturing
SDM414	Industrial Design Professional Practices	3	1	3-4 Fall	Had got 100 credits and had finished at least 2 design stream major elective courses.	School of System Design and Intelligent Manufacturing
SDM474	Advanced Design-Manufacture Integrated Technique	3	1	3-4 Fall	Fundamentals of materials Engineering, Mechanics for Design	School of System Design and Intelligent Manufacturing
SDM472	Additive Manufacturing Technology	3	1	4 Fall	Mechanical Design and Manufacturing I	School of System Design and Intelligent Manufacturing
SDM471	AR / VR and Its Application	3	1	4 Spring	Introduction to Python Programming	School of System Design and Intelligent Manufacturing
ME405	Innovative Design Theory and Practice	3	1	4 Fall	Product Design Practice	Department of Mechanical and Energy Engineering
SDM402	Innovation Design Practice I	2	2	3 Summer & 4 Fall	None	School of System Design and Intelligent

						Manufacturing
SDM404	Innovation Design Practice II	2	2	3 Summer & 4 Fall	None	School of System Design and Intelligent Manufacturing
SDM491	Capstone	12	12	3 Spring	None	School of System Design and Intelligent Manufacturing
Total		210	89			

Curriculum Structure of Industrial Design

Y 1 FALL	Y 1 SPRING	Y 2 FALL	Y 2 SPRING	Y 3 FALL	Y 3 SPRING	Y 4 FALL	Y 4 SPRING
25 CREDITS *	25 CREDITS *	24 CREDITS	25 CREDITS	25 CREDITS	23 CREDITS	7 CREDITS	12 CREDITS

Y 1 FALL — 25 CREDITS *
- 25 GE Courses

Y 1 SPRING — 25 CREDITS *
- 22 GE Courses
- 3 Product Design Visualization

Y 2 FALL — 24 CREDITS
- 8 GE Courses
- 3 Rapid Prototyping Techniques
- 4 Analog Circuits System Design
- 3 Fundamentals of materials Engineering
- 3 Mechanical Design and Manufacturing I
- 3 Design Thinking and Engineering

Y 2 SPRING — 25 CREDITS
- 12 GE Courses
- 3 Fundamentals of Industrial Design
- 3 Mechanics for Design
- 3 Industrial Design History
- 2 System Design and Management
- 2 Aesthetics and Design Psychology

Y 3 FALL — 25 CREDITS
- 10 GE Courses
- 3 Computer Simulation and Design
- 3 Product Design
- 3 Fundamentals of Control Engineering and Design
- 3 Human Factors Engineering
- 3 Major Elective 1

Y 3 SPRING — 23 CREDITS
- 6 GE Courses
- 2 Quality Engineering and Management
- 3 Computational Design
- 3 Design for Intelligent Manufacturing
- 3 Major Elective 2
- 3 Major Elective 3
- 3 Major Elective 4

Y 4 FALL — 7 CREDITS
- 2 Innovation Design Practice I
- 2 Innovation Design Practice II
- 3 Major Elective 5
- Capstone

Y 4 SPRING — 12 CREDITS
- 12 Capstone

Y 1 SUMMER
- 4 学分
- 4 Introduction of Integrative System Design

* Including 14 English credits.