					1 <sup>st</sup> y	/ear			$2^{nd}$	year			3 <sup>rd</sup>	year			$4^{\text{th}}$	year		
		Cred	Но	Fa	ıll	Spr	ring	Fa	all	Spr	ing	Fa	ıll	Spr	ing	Fa	ıll	Spi	ring	
	Course	its	urs	cl as s	la b	cl as s	1 a b	cl as s	la b	cl as s	1 a b	cl as s	la b	cla ss	la b	cl as s	la b	cl as s	la b	Note
	Chinese Literature: Appreciation And Creative Writing	2	2	2																
	Chinese Literature: Appreciation And Creative Writing	2	2			2														
	Practical English 1	0	2	1	1															
	Practical English 2	0	2			1	1													
Core	Practical English 3	0	2					1	1											
Required	Practical English 4	0	2							1	1									
Courses	English for Business Communication 1	2	3									2	1							Note 7
	English for Business Communication 2	2	3											2	1					
	Workplace English 1	2	3													2	1			
	Workplace English 2	2	3															2	1	
	Service Learning	12	12																	Note 6
	Physical Education 1-6	0	12	2		2		2		2		2		2						
	Subtotal	24		5		5		3		3		2		4		2		2		
	Calculus 1	3	4	3	1															
	Calculus 2	3	4			3	1													
	Introduction to Computer	3	5	3	2															Computer course
	Computer Programming 1	3	6	3	3															Computer course
	Discrete Mathematics	3	3			3														
	Computer Programming 2	3	6			3	3													Computer course
	Digital Logical Design	3	3	3																
Professional	Lab for Digital Logical Design	1	3	3																Lab course
	Electric Circuits	3	3			3														
Required Courses	Data Structures	3	5					3	2											Computer course
	Introduction to Computer Networks	3	3					3												
	Object-oriented Technology	3	3					3												
	Computer Algorithms	3	3							3										
	Mobile Device Programming	3	3							3										
	Linear Algebra	3	3							3							L			
	Probability and Statistics	3	4									3	1							
	Database Systems	3	3									3								
	Operating Systems	3	3									3								

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Project Research 1-2 6 3 3 1-semester courses															
	Projec	ct Research 1-2	6		: St	10	C.	-97©		3	3	3	8	ох — Э	1-semester courses

					$1^{st}$	year			$2^{nd}$	year			3 <sup>rd</sup>	year			4 <sup>th</sup> y	ear		
G		Credi	Н	Fa	.11	Spri	ng	Fal	11	Spri	ng	Fa	11	Spri	ing	Fa	11	Spr	ing	<b>N</b> T .
Course	2	ts	rs	cla ss	la b	clas s	la b	clas s	la b	clas s	la b	clas s	la b	clas s	la b	clas s	la b	cl as s	la b	Note
	XML Programming	3	3							3										Computer course
	Artificial Intelligence	3	3							3										
	Introduction to Programming with Python	3	3							3										
	Advanced Java Programming and Licence	3	3							3										
	Data Mining	3	3							3										
	Web Programming	3	3									3								
	Introduction to Software Engineering	3	3									3								
	Data Warehouse System	3	3									3								
Elective	Advanced Mobile Device Programming	3	3									3								
Courses-	R Language Data Processing	3	3									3								
Software and Data	Systems Analysis and Design	3	3											3						
Engineering	UNIX Operations Systems	3	3											3						
Program	Social Networking Programming	3	3											3						
	Advanced iOS Programming	3	3											3						
	Business Intelligence	3	3											3						
	Weka Practice Data Analysis	3	3											3						
	Linux System	3	3													3				
	Social Network Mining	3	3													3				
	Software Testing and Maintenance	3	3													3				
	Practical Data Analysis	3	3													3				
	Object-Oriented Design Patterns	3	3													3				

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	Windows Programming	3	3			3										
	Introduction to Multimedia	3	3				3									
	Principle and Application of Sensors	3	3				3									
	Unity3D Design	3	3				3									
	Introduction to Mobile Communication	3	3				3									
	Matlab programming and Application	3	3					3								
	TCP/IP Protocol	3	3					3								
	Interactive media design	3	3					3								
	Image processing	3	3							3						
	Electronic Interactive Technology Programming	3	3							3						
Elective Courses-	Introduction to Video Communication	3	3							3						
Networking and Interactive	Introduction to Information Security	3	3							3						
Media Program	Cloud Computing- Virtualization Technologies	3	3							3						
	Technologies of Internet of Things	3	3								3					
	Interactive Video Game Development	3	3								3					
	Embedded Multimedia Design	3	3								3					
	High-speed Networks	3	3								3					
	Topics on Image Processing	3	3								3					
	Virtual Reality										3					
	Network Planning and Management	3	3									3				
	Network Intrusion Detection	3	3									3				
	Military Education	0	2	2				 								
	Military Education	0	2			2										
	Nursing Section	0	2	2												
	Nursing Section	0	2			2										
	Military Education	0	2				2									
ļ	Military Education	0	2					2								

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	Physical Education	2	2												2		
	Physical Education	2	2													2	
	Japanese 1-1	2	3	2	1												
	Japanese 1-2	2	3			2	1										
	Japanese 2-1	2	3					2	1								
	Japanese 2-2	2	3							2	1						
	Introduction to Civil Law	2	2	2													
	Copyright law	2	2										2				
	Practical English	3	3									3					
	Workplace English	3	3										3				
	Applied Information Technology 1	2	2	2													Computer course
	Applied Information Technology 2	2	2			2											Computer course
	Information Technology Application	2	4			2	2										Computer course
	Web Programming	3	3					3									Computer course
	Computer Aided Design	3	3					3									Lab course
	Micro Processor Systems	3	3							3							Lab course
	Introduction to Web Servers	3	3							3							Computer course
Other	Advanced CPP Programming	3	3							3							Computer course
informational Elective Course	Advanced Java Programming and Licence	3	3							3							Computer course
	Computer Animation	3	3							3							Computer course
	Digital Signal Processing	3	3							3							
	Mobile Information Systems design	3	3							3							Computer course
	Artificial Intelligence	3	3									3					
	Information ethics	2	2									2					
	Fuzzy Theory	3	3									3					
	Special Topics on Programming	3	3									3					
	Introduction to Coding	3	3									3					
	The Design and	3	3									3					Lab

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		Applications of FPGA/CPLD																course
	-	Seminar on the Design of Computer Algorithms	3	3						3								
		Cloud technology design and services	3	3						3								
		Statistics analysis and Application	3	3								3						
	-	Database design	3	3								3						
		Unix Programming	3	3								3						Computer course
		Peripheral Interface Design	3	3								3						Lab course
	-	Introduction to Secret Sharing	3	3								3						
		Cloud computing Security Management	3	3								3						
		Cloud computing technology and applied	3	3								3						
		Social media application design	3	3								3						
	-	Advanced Computer Architectures	3	3										3				
		Distributed Systems	3	3										3				
		Information Laws	3	3										3				
		Social media project develop	3	3										3				
		Performance Analysis	3	3												3		
		Intelligent Computation	3	3												3		
		Digital content and trend	3	3												3		
		Windows Programming	3	3		3												
	-	iOS Programming	3	3						3								
		The Lectures of Information Trend	2	2										2				
		Internship	3	3										3				
		Artificial Intelligence	3	3						3								
		Machine Learning	3	3								3						
		Overseas Internship	2	2												2		
		89		1 8	20			15	12		12		9		3			
Subtotal	Subtotal Required	Course Credits	39															
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Subtotal Elective Course Credits	19										
Subtotal Professional Elective Course Credits	20										
Subtotal Other Elective Course Credits	128										

Notes:

1. The students of CSIE department must fulfill 128 credits to be eligible for graduation, including:

I.24 required credits demanded by the university

II.58 required credits demanded by the department

III.At least 46 elective credits which include:

A.At least one course from each of the four modules (totally 12 credits)

B.At least one of the following two courses: Information Law and Information Ethics.

IV.Pre-requisite policy: The minimum score of 40 for Programming Design II is the pre-requisite for Data Structure and Computer Algorithms.

2. Courses from focused course programs set up by any individual IT department or cooperatively between IT and other Schools can be regarded as the CSIE professional elective courses under the approval of the department chair. Courses selected from other Schools can also be regarded as the CSIE professional elective courses under the approval of the department chair with a limitation of at most 20 course credits.

3. Students can choose the courses from the CSIE Master program, which can be counted as their graduation credits under the approval of the department chair.

4. If students any cannot finish the requirement for graduation owing to the reason that some courses from each of the four programs cannot be delivered, the department chair can assign other courses as substitutions.

5. When retaking the required course, students can choose those which are with the same course name or the same course content as substitutions under the approval of the department chair. These courses can be regarded as their graduation credits.

6. Students need to complete at least 12 General Education course credits. General Education courses are divided into three areas: Humanities, Social Science, and Natural Science. Each area is divided into two subcategories: core and extended. Students need to take 1 two-credit course in both of the subcategories within each area to be eligible for graduation. Only 12 course credits will be counted toward graduation. Additional course credits earned in General Education courses are not counted toward graduation.

7. In accordance with the General Provisions for Study, undergraduate students need to satisfactorily complete Service Learning, meet the university-wide basic competencies of English, Information Technology, Chinese, and Sports, and pass the core competencies of their department to be eligible for graduation.

8. Education credits cannot be counted as the graduation credits.

9. Students who fulfill the requirement of each modules can apply for the corresponding certificate. The requirement of each modules will be specified in the other regulation.

10. The elective courses on this Course Outline may be counted toward total graduation credits by students who entered the university prior to the 2017-7 academic year. 11. The credits of interdisciplinary focused course program are not included in course structure diagram that can be regarded as the other department credits.