Ming Chuan University Computer Science and Information Engineering Course Outline for all students entering in 2020

Section Content					First year Second year Third year Forth year																
Section Property Section		Course	Credits	Hours	F:		T .	ino					E		T		Fa		1	rino	Note
Appreciation Anal 2 2 2 3 3 4 3 4 4 5 5 5 5 5 5 5 5																					-
Appreciation And 2 2 2 2 8 8 9 2 9 1		Appreciation And Creative Writing 11	2	2	2																
Procedure Fagish 2 0 2 0 0 1 0 0 0 0 0 0 0		Appreciation And	2	2			2														
Processors of Pr		Practical English 1	0	2	1	1															
Processional Page 1	Core	Practical English 2	0	2			1	1													
Practical English 4	Required	Practical English 3	0	2					1	1											
Professional Programming 2 3 3 4 5 5 5 5 5 5 5 5 5	Courses	Practical English 4	0	2							1	1									
Communication 2		Communication 1	2	3									2	1							Note7
Notificial Residual			2	3											2	1					
Physical Falucation 1-6		Workplace English 1 1	2	3													2	1			
Computer Programming 3																			2	1	
1		•		12	2		2		2		2		2		2						_
Introduction to		Computer Programming 1	3	6	3	3															
Computer 3 5 5 2		Digital Logical Design	3	3	3																
Design		Computer	3	5	3	2															
Discrete Mathematics 3 3 3 3 3 4 5 6 6 7 8 7 8 8 8 8 8 8 8			1	3	3																
Computer Programming 3		Calculus 1	3	4	3	1															
Professional Required Courses Professional Required Courses Data Structures 3 3 4 3 3		Discrete Mathematics	3	3			3														
Professional Required Courses Electric Circuits		Computer Programming 2	3	6			3	3													Compute r course
Required Courses Courses		Calculus 2	3	4			3	1													
Courses		Electric Circuits	3	3			3														
Data articutures	_	introduction to	3	3					3												
Object-oriented		Data Structures	3	5					3	2											Compute r course
Computer Algorithms			3	3					3												
Probability and Statistics 3		Linear Algebra	3	3							3										
Operating Systems 3 3 3 3 3 3 3 4 5		Computer Algorithms	3	3							3										
Database Systems Project Research 1 3 3 3		Probability and Statistics	3	4									3	1							
Project Research		Operating Systems	3	3									3								
Project Research 2 3 3 3		Database Systems	3	3									3								
Softw are Electi and ve Data Course Engin es Program m Python Python Advanced Java		Project Research1	3	3											3						
Softw are Electi and ve Data Cours Engin es Program Throduction to Programming with Python Advanced Java And Advanced Java		Project Research2	3	3													3				
Electi and ve Data Cours Engin ering Program m python	So	XML Programming	3	3							3										
ve Data Cours Engin es Progra m python Introduction to 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1	A C . 1 T . 11.	3	3									3								234150
Advanced Java	ve D Cours Ei es ee Pi	Introduction to Programming with Python Python	3	3							3										
			3	3							3	İ							İ	İ	

			First year		Second year				Third year										
Course	Credits	Hours	Fall		Spring		Fa		Spr		Fa		Spring		Forth Fall		Spring		Note
			class		class		class				class		class		class		class		
Programming and Licence JAVA																			
Data Mining	3	3							3										
Web Programming	3	3									3								
Introduction to																			
Software Engineering	3	3									3								
Data Warehouse System	3	3									3								
R Language Data Processing R	3	3									3								
Systems Analysis and Design	3	3											3						
UNIX Operations Systems UNIX	3	3											3						
Social Networking Programming	3	3											3						
machine learning	3	3											3						
Business Intelligence	3	3											3						
Weka Practice Data Analysis WEKA	3	3											3						
Linux System Linux	3	3													3				
APPs Programming for Mobile Devices	3	3							3										
Software Testing and Maintenance	3	3													3				
Big Data Analysis	3	3													3				
Blockchain Technology	3	3											3						
Introduction to Multimedia	3	3					3												
Principle and Application of Sensors	3	3					3												
Unity3D Design Unity3D	3	3					3												
Introduction to Mobile Communication	3	3					3												
Matlab programming and Application Matlab	3	3							3										
TCP/IP Protocol TCP/IP	3	3							3										
Interactive media design	3	3							3										
Image processing	3	3									3								
Electronic Interactive Technology Programming	3	3									3								
Introduction to Video Communication	3	3									3								
Introduction to Information Security	3	3									3								

				First year				Second year				Third year				Forth year					
		Course	Credits	Hours	Faclass	all lab	Spr		Fa class		Spr		Fa	all lab	Spr		Fa class		Spr	iiig	Note
		Introduction to Deep Learning and its	3	3											3						
		Applications																			
		Technologies of Internet of	3	3											3						
		Things Interactive Video	3	3											3						
		Game Development	3																		
		Embedded Multimedia Design	3	3											3						
		High-speed Networks	3	3											3						
		Topics on Image Processing	3	3											3						
		Virtual Reality	3	3											3						
		Network Planning and Management	3	3													3				
		Network Intrusion Detection	3	3													3				
		Introduction to Neural Network and Deep Learning	3	3													3				
		Military Education 1	0	2	2																
		Military Education 2	0	2			2														
		Nursing Section 1	0	2	2																
		Nursing Section 2	0	2			2														
		Military Education 3	0	2					2												
		Military Education 4	0	2							2										
		Physical Education	2	2													2				
Electi		Physical Education	2	2															2		
ve Cours	other	Japanese 1-1	2	3	2	1															
cours		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						
	Other	computer aided circuit design	3	3					3												Lab course
Electi	infor	Microprocessor Systems	3	3							3										Lab course
Cours	Electi ve	Fundamentals of Electronics	3	3	3																
CS	Cours e	Overview of Information Technology	1	1	1																
		Applied Information	3	3			3														

			First year					Secon	d year			Third	l year						
Course	Credits	Hours	Fa class	all lab	Spr	ing lab	Fa class		Spr		Fa class	ıll lab	Spr class		Fa class	all lab	Spr class	_	Note
Technology2()			Class	140	Class	lau	Class	iau	Class	140	Class	Tab	Class	lau	Class	iau	Class	iau	
Applied Information Technology	2	4			2	2													
Assembly Language	3	3							3										
Engineering Mathematics	3	3							3										
Introduction to Web Servers	3	3							3										
Information Ethics	2	2									2								
Computer Architectures	3	3									3								
Fuzzy Systems	3	3									3								
Advanced APPs Programming for Mobile Devices	3	3									3								
Embedded Systems and Applications	3	3											3						
Innovative and Creative Project Development	3	3											3						
Formal Language	3	3											3						
Advanced iOS Programming	3	3											3						
iOS																			
Web Page Design and Practical Applications	3	3													3				
Open Source Software Engineering Practice	3	3													3				
Open Source Operating System Practice	3	3													3				
Advanced Programming and Certification	0	3															3		
Practical Data Mining Applications with Open Source Software	3	3															3		
Open Source Network Server Setup Practice	3	3															3		
Advanced Internship	3	3															3		
Practical Project of Electronics	3	3															3		
Advanced CPP Programming CPP	3	3							3										Compo ter course
Computer Animation	3	3							3										Computer course
Digital Signal Processing	3	3							3										course
Artificial Intelligence	3	3									3								
Information ethics	2	2									2								
Fuzzy Theory	3	3									3								
Special Topics on	3	3									3								
Programming											3								

					First	year			Secon	d year	•		Third	l year			Forth	year		
	Course	Credits	Hours	Fa		Spr		Fa		Spr		Fa		Spr		Fa		Spr		Note
	Introduction to Coding	3	3	class	lab	class	lab	class	lab	class	lab	class 3	lab	class	lab	class	lab	class	lab	
	The Design and	3	3									3								Lab
	The Design and	3	3									3								Lau
	Applications of FPGA/CPLD FPGA/CPLD	3	3									3								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						
	Unix Programming Unix	3	3											3						Compu ter 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						
	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		
	iOS Programming iOS	3	3									3								
	The Lectures of Information Trend	2	2													2				
	Internship	3	3													3				
	Overseas Internship	2	2															2		
	t Core Required Courses	12																		
al	Professional Required Courses	55																		
	Professional Elective Course Credits	49																		
	General Education course credits	12																		
	graduation credits																			

Notes:

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

- 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 two modules (totally 6 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. Courses selected from other Schools can be regarded as the other department credits 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.
- 4. If students cannot finish the requirement for graduation owing to the reason that some courses from each of the two 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 2020-7 academic year.
- 11. focused course program specified in the other regulation, please refer to the CSIE department website.
- 12. The credits of interdisciplinary focused course program are not included in course structure diagram that can be regarded as the other department credits.