Ming Chuan University Computer Science and Information Engineering Course Outline for all students entering in 2015

	Course	Credits	Hours	1st year Fall class	lab	1st year Spring class	lab	2nd year Fall class	lab	2nd year Spring class	lab	3rd year Fall class	lab	3rd year Spring class	lab	4th year Fall class	lab	4th year Spring class	lab	Note
Core Required Courses	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															Note 7
	Practical English 2	0	2			1	1													
	Practical English 3	0	2					1	1											
	Practical English 4	0	2							1	1									
	English for Business Communication 1	2	3									2	1							
	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		
Professional Required Courses	Calculus 1	3	4	3	1															
	Calculus 2	3	4			3	1													
	Introduction to Computer	3	5	3	2															Computer course
	General Physics	3	3	3																Lab course included
	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														

(Continued — Required Courses)

Course	Credits	Hrs	1st yr Fall class	1st yr Fall lab	1st yr Spring class	1st yr Spring lab	2nd yr Fall class	2nd yr Fall lab	2nd yr Spring class	2nd yr Spring lab	3rd yr Fall class	3rd yr Fall lab	3rd yr Spring class	3rd yr Spring lab	4th yr Fall class	4th yr Fall lab	4th yr Spring class	4th yr Spring lab	Note
Lab for Digital Logical Design	1	3			3														Lab course
The Overview of Information Technology	1	1			1														
Linear Algebra	3	3					3												
Data Structures	3	5					3	2											Computer course
Electric Circuits	3	3					3												
Introduction to Computer Networks	3	3					3												
Engineering Mathematics	3	3							3										
Assembly Language	3	3							3										
Computer Algorithms	3	3							3										
Probability and Statistics	3	4									3	1							
Database Systems	3	3									3								
Computer Architectures	3	3									3								
Operating Systems	3	3											3						
Project Research 1-2	6												3		3				1-semester courses

Course		Credits	Hrs	1st yr Fall class	1st yr Fall lab	1st yr Spring class	1st yr Spring lab	2nd yr Fall class	2nd yr Fall lab	2nd yr Spring class	2nd yr Spring lab	3rd yr Fall class	3rd yr Fall lab	3rd yr Spring class	3rd yr Spring lab	4th yr Fall class	4th yr Fall lab	4th yr Spring class	4th yr Spring lab	Note
Elective Courses-Software System Program	Java Programming	3	3					3												Computer course
	XML Programming	3	3							3										Computer course
	Introduction to Software Engineering	3	3									3								
	C# Programming	3	3									3								Computer course
	Object-oriented Technology	3	3									3								

Course		Credits	Hrs	1st year Fall class	lab	Spring class	lab	2nd year Fall class	lab	Spring class	lab	3rd year Fall class	lab	Spring class	lab	4th year Fall class	lab	Spring class	lab	Note
	Systems Analysis and Design	3	3											3						
	Formal Language	3	3											3						
	UNIX Operations Systems	3	3											3						Computer course
	Software Testing and Maintenance	3	3													3				
	Human Machine Technology	3	3													3				
	Linux System	3	3													3				
Elective Courses-Networking and Communication Program	Introduction to Mobile Communication	3	3					3												
	TCP/IP Protocol	3	3							3										
	Introduction to High Definition Television	3	3							3										
	Introduction to Video Communication	3	3									3								
	Mobile application design	3	3									3								
	Introduction to Information Security	3	3									3								
	Ad Hoc Networks	3	3											3						
	High-speed Networks	3	3											3						
	network intrusion detection	3	3											3						
	Advanced Mobile application design and Licence	3	3											3						Computer course

Course		Credits	Hrs	1st year Fall class	1st year Fall lab	1st year Spring class	1st year Spring lab	2nd year Fall class	2nd year Fall lab	2nd year Spring class	2nd year Spring lab	3rd year Fall class	3rd year Fall lab	3rd year Spring class	3rd year Spring lab	4th year Fall class	4th year Fall lab	4th year Spring class	4th year Spring lab	Note
	Network Planning and Management	3	3													3				
	Network Security	3	3															3		
Elective Courses- Data Analysis and Application Program	Data Mining	3	3							3										
	Data Warehouse System Design	3	3									3								Computer course
	Social Network Mining	3	3									3								
	Practical Data Analysis	3	3											3						Computer course
	Advanced Database Systems	3	3																	
	Program Design in Business Intelligent	3	3													3				Computer course
Elective Courses- Interactive Media Program	Graphic Design	3	3	3																Computer course
	Animation design	3	3			3														Computer course
	Interactive media design	3	3					3												
	Electronic interactive project	3	3							3										Computer course
	Matlab programming	3	3							3										Computer course

Course	Credits	Hrs	1st year Fall		1st year Spring		2nd year Fall		2nd year Spring		3rd year Fall		3rd year Spring		4th year Fall		4th year Spring		Note
			class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	
Image processing	3	3									3								Computer course Core course
Design of Interactive Camera Game	3	3											3						Computer course
Multimedia Games design	3	3											3						
Human Machine Techonology	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												
Military Education	0	2							2										
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						

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Course		Credits	Hrs	1st year Fall class	lab	Spring class	lab	2nd year Fall class	lab	Spring class	lab	3rd year Fall class	lab	Spring class	lab	4th year Fall class	lab	Spring class	lab	Note
Other informational Elective Course	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
	Advanced CPP Programming	3	3							3										Computer 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								

Course	Credits	Hrs	1st year Fall class	1st year Fall lab	1st year Spring class	1st year Spring lab	2nd year Fall class	2nd year Fall lab	2nd year Spring class	2nd year Spring lab	3rd year Fall class	3rd year Fall lab	3rd year Spring class	3rd year Spring lab	4th year Fall class	4th year Fall lab	4th year Spring class	4th year Spring lab	Note
Special Topics on Programming	3	3									3								
Introduction to Coding	3	3									3								
The Design and Applications of FPGA/CPLD	3	3									3								Lab 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				

Course			Credits	Hrs	1st year Fall		1st year Spring		2nd year Fall		2nd year Spring		3rd year Fall		3rd year Spring		4th year Fall		4th year Spring		Note
					class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	
		The Lectures of Information Trend I	1	2													2				Required chosen
		The Lectures of Information Trend II	1	2															2		Required chosen
		Performance Analysis	3	3															3		
		Intelligent Computation	3	3															3		
		Digital content and trend	3	3															3		
Subtotal	Subtotal Required Course Credits		89		18		20				15		12		12		9		3		
	Subtotal Elective Course Credits		39																		
	Subtotal Professional Elective Course Credits		19																		
	Subtotal Other Elective Course Credits		20																		
	Subtotal		128																		

Notes:

1. The students of CSIE department must fulfill 128 credits by graduation, including:
   I. 24 required credits designed by the university
   II. 65 required credits designed by the department
   III. At least 39 elective credits which include:
      A. At least one kernel course from each of the four programs (totally 15 credits)
      B. At least one of the following two courses: Information Law and Information Ethics.

2. Students can choose other course of Information College or cooperation programs as professional elective courses. Students can choose other professional courses of Information College as professional elective courses if agreed by the chair of the department. Courses not from the Information College are not admitted by the department and cannot be taken as the graduation credits if not agreed by the chair of the department. Credits of Courses which not from the Information College can't count as graduation credits when exceed 20.

3.   Students can choose other course of CSIE graduate school as professional elective courses and count as graduation credits if agreed by the chair of the department.

4.   If students can't graduate due to course can't open as well. Chair of the department can choose another course for instead.

5.   Students who fail a course, can choose another course of other department which have same name or same course contents if agreed by the chair of the department and count as graduate credits.

6.   Beginning with those enrolling in the academic year of 2010, students are required to take at least 12 credit hours of General Education courses. There are three disciplines within General Education – Humanities, Social Science and Natural Science. The courses are categorized into "Core Courses" and "Extended Courses" under each discipline. To meet the graduation requirements, students are required to take at least one 2- credit-hour course in each category of each of the disciplines. Credits which exceed 12 can't count as graduation credits.

7.   According to principle of school, to meet the graduation requirements, students are required to pass "Service-Learing", "English proficiency ", "Information proficiency", "Chinese proficiency ", "Exercise capacity ", "Professional Ability" tests.

8.   We don't admit education course as graduation credits.

9.   Students which finish the classes of each program can apply for the certificate. The requirement of each program will be determined 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 2013-7 academic year.