

Chang Gung University Courses for Master Program in CME Department (111Academic Year Calendar)															
Fall semester: August 2022~January 2023															
	Course Code	E / C	SUBJECT	Crt.	Grade	1Sem.	2Sem.		Course Code	E / C	SUBJECT	Crt.	Grade	1Sem.	2Sem.
	CEM009	C	Research on Special Topics (1)(2)	2	1	1	1	Chemical Field/Professional	CEM101	E	Air Pollution Control Theory and Design	3	1	3	
	CEM010								CEM710	E	Instrumentation and Control System Design	3	1	3	
	CEM011	E	Seminar(1)(2)	4	1	2	2		CEM350	E	Particulate Engineering	3	1	3	
	CEM012	E	Seminar(3)(4)	4	2	2	2		CEM161	E	Enzymes and Cell Immobilization	3	1	3	
	CEM013								CEM360	E	Applied Industrial Microbiology	3	1	3	
	CEM014								CEM102	E	Special Lecture in Practice of Chemical Industry	3	1	3	3
									CEM016	E	Theory and Design of Wastewater Treatment	3	1		3
									CEM540	E	Bioreactor	3	1		3
Chemical Field/Core	CEM030	E	Advanced Reaction Engineering	3	1	3			CEM053	E	Advanced Process Control	3	1		3
	CEM052	E	Advanced Transport Phenomena	3	1	3			CEM21Y	E	Design of Experiments	3	1		3
									CEM256	E	Battery and Energy Conversion	3	1		3
	CEM220	E	Advanced Process Engineering	3	1		3		CEM381	E	Chemical Process Simulation Practices	3	1		3
	CEM270	E	Advanced Thermodynamics	3	1		3		CEM039	E	Industrial Instrumentation and Control	3	1		3
								CEM260	E	Supercritical Fluids and its Applications	3	1		3	
Materials Field/Core	CEM120	E	Advanced Organic Materials	3	1		3	Materials Field/Professional	CEM005	E	Applied Industrial Microbiology	3	1		3
	CEM123	E	Advanced Inorganic Materials	3	1	3									
									CEM172	E	Ceramic Materials	3	1	3	
									CEM131	E	Polymer Structure and Physical Properties	3	1	3	
									CEM153	E	Membrane Technology	3	1	3	
									CEM080	E	Opto-Polymers & Their Application	3	1	3	
College of Engineering		E	English Speaking and Presentation (I)	2	—	2			BEM104	E	Biomaterial	3	1	3	
		E	English Speaking and Presentation (II)	2	—		2		CEM132	E	Physical Metallurgy Principles	3	1	3	
		E	English Technical Writing (1)	1	—	1			CEM091	E	Solid State Chemistry	3	1		3
		E	English Technical Writing (2)	1	—		1		CEM452	E	Polymer Blends	3	1		3
Remarks									CEM454	E	Thin Film Processing	3	1		3
									CEM520	E	Functional Polymers	3	1		3
									CEM025	E	The Photoelectrochemical Technology	3	1		3
									CEM024	E	Nanobiotechnology	3	1		3
									BEM129	E	Surface Analysis Technology	3	1	3	
									CEM008	E	Clinical Applications of Biomedical Engineering and Materials	3	1	3	
									CEM040	E	Applications of Nanobiotechnonlgy in Medicine	2	1	2	
									CEM201	E	Instrumental Analysis Special Topics	3	1	3	
									CEM036	E	Introduction to Energy Technology	3	1	3	
									CEM740	E	Special Topics in Advanced Electrochemistrv	3	1	3	
									CEM571	E	Biochemical Engineering	3	1	3	
									CEM760	E	R&D and patents pratice	3	1		3
									BEM113	E	Animal and Insect Cell Culture	3	1		3
1 At least 40 credit hours are required to receive Master degree. (1)2 credit hours from the required courses.(including Research on Special Topics (1)(2)) (2)32 credit hours from the elective courses. (3)6 credits of thesis.(grant upon graduation)  2 Max. of 3 credit hours outside of CME Department and Biomed Graduate Institute are counted for graduation requirement. 3 Students have to take at least 1 course from 6 core elective courses. 4.1 Seminar (1)(2) (3)(4) should be taken during the master program study. 4.2 Students who graduate earlier than regular two years may waive Seminar (3)(4) courses, but still need to obtain 40 credit hours to fulfill graduation requirement.  5 International students may take elective courses in English provided by other departments/graduate institutes of CGU toward graduation requirement, within the caps of 12 credit hours for M.S. students and 9 credit hours for Ph.D. students. These courses are subject to be reviewed by advisor and graduate student affairs committee. This regulation applies to the international students admitted through the international student admission process.  6 All graduate students must pass/meet the English proficiency test/requirement as outlined in "English Proficiency Assessment for Foreign Students, College of Engineering, Chang Gung University". 7 E:Elective / C:Compulsory															