

Chang Gung University Courses for Master Program in CME Department (109 Academic Year Calendar)

Fall semester: August 2020~January 2021

	Course Code	E / C	SUBJECT	Crt.	Grade	1Semester	2Semester		Course Code	E / C	SUBJECT	Crt.	Grade	1Semester	2Semester	
	CEM009 CEM010	C	Research on Special Topics (1)(2)	2	1	1	1									
	CEM011 CEM012	E	Seminar(1)(2)	2	1	1	1	Chemical Field/Professional	CEM101	E	Air Pollution Control Theory and Design	3	1	3		
	CEM013 CEM014	E	Seminar(3)(4)	2	2	1	1		CEM710	E	Instrumentation and Control System Design	3	1	3		
									CEM350	E	Particulate Engineering	3	1	3		
									CEM028	E	Special Topics on Chemical Reaction Engineering	3	1		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	
	CEM220	E	Advanced Process Engineering	3	1		3		CEM256	E	Battery and Energy Conversion	3	1		3	
	CEM270	E	Advanced Thermodynamics	3	1		3		CEM381	E	Chemical Process Simulation Practices	3	1		3	
								CEM039	E	Industrial Instrumentation and Control	3	1		3		
Materials Field/Core	CEM120	E	Advanced Organic Materials	3	1		3	CEM260	E	Supercritical Fluids and its Applications	3	1		3		
	CEM123	E	Advanced Inorganic Materials	3	1	3		CEM161	E	Enzymes and Cell Immobilization	3	1	3			
								CEM360	E	Applied Industrial Microbiology	3	1	3			
								CED005	E	Applied Industrial Microbiology	3	1	3			
								CEM102	E	Special Lecture in Practice of Chemical Industry	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			
								BEM104	E	Biomaterial	3	1	3			
								CEM091	E	Solid State Chemistry	3	1		3		
								CEM132	E	Physical Metallurgy Principles	3	1	3			
								CEM452	E	Polymer Blends	3	1		3		
								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			
								CED008	E	Clinical Applications of Biomedical Engineering and Materials	3	1	3			
								CEM040	E	Applications of Nanobiotechnology 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 Electrochemistry	3	1	3				
							CEM571	E	Biochemical Engineering	3	1	3				
							CED007	E	Tissue Engineering	3	1	3				
							CEM760	E	R&D and patents practice	3	1		3			
							BEM113	E	Animal and Insect Cell Culture	3	1		3			

Remarks

- At least 36 credit hours are required to receive Master degree.
 (1)2 credit hours from the required courses. (including Research on Special Topics (1)(2))
 (2)28 credit hours from the elective courses.
 (3)6 credits of thesis. (grant after passing the degree exam.)
- Max. of 3 credit hours outside of CME Department and Biomed Graduate Institute are counted for graduation requirement.
- Students have to take at least 1 course from 6 core elective courses.
- 1 Seminar (1)(2) (3)(4) should be taken during the master program study.
 Students who graduate earlier than regular two years may waive Seminar (3)(4) courses, but still need to obtain 36 credit hours to fulfill graduation requirement.
- 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