

Chang Gung University Courses for Master Program in CME Department (110 Academic Year Calendar)

Fall semester: August 2021~January 2022

Course Code	E / C	SUBJECT	Crt.	Grade	1Sem.	2Sem.	Course Code	E / C	SUBJECT	Crt.	Grade	1Sem.	2Sem.	
CEM009 CEM010	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	
								CEM710	E	Instrumentation and Control System Design	3	1	3	
CEM011 CEM012	E	Seminar(1)(2)	2	1	1	1		CEM350	E	Particulate Engineering	3	1	3	
CEM013 CEM014	E	Seminar(3)(4)	2	2	1	1		CEM161	E	Enzymes and Cell Immobilization	3	1	3	
								CEM360	E	Applied Industrial Microbiology	3	1	3	
								CEM102	E	Special Lecture in Practice of Chemical Industry	3	1	3	3
								CEM016	E	Theory and Design of wastewater Treatment	3	1		3
CEM030	E	Advanced Reaction Engineering	3	1	3			CEM540	E	Bioreactor	3	1		3
CEM052	E	Advanced Transport Phenomena	3	1	3			CEM053	E	Advanced Process Control	3	1		3
CEM220	E	Advanced Process Engineering	3	1		3		CEM21Y	E	Design of Experiments	3	1		3
CEM270	E	Advanced Thermodynamics	3	1		3		CEM256	E	Battery and Energy Conversion	3	1		3
								CEM381	E	Chemical Process Simulation Practices	3	1		3
								CEM039	E	Industrial Instrumentation and Control	3	1		3
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		CEM005	E	Applied Industrial Microbiology	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		
							CEM132	E	Physical Metallurgy Principles	3	1	3		
							CEM091	E	Solid State Chemistry	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		
							CEM008	E	Clinical Applications of Biomedical Engineering and Materials	3	1	3		
							CEM040	E	Applications of Nanobiotechnolgy 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		
							CEM760	E	R&D and patents pratic	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.
- 2 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.
- 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".
- E:Elective / C:Compulsory