Program of Ph.D. Degree in Energy Battery Technology in 2026

	Courses	First Semester		Second Semester		Third Semester		Fourth Semester		Fifth Semester		Sixth Semester		Remarks
		Gredits	Hours	Gredits	Hours	Gredits	Hours	Gredits	Hours	Gredits	Hours	Gredits	Hours	
Required Courses	Seminar(1)(2)	1	2	1	2									
	Project & Discussion(1)(2)	1	2	1	2									
	Technical writing in English(1)(2)	1	2	1	2									
	Thesis & Discussion(1)(2)(3)(4)					1	1	1	1	1	1	1	1	Third semester to sixth semester need take and scoring methods: pass or fail
	Subtotal	**3**	**6**	**3**	**6**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	
Core Electives	Advanced Electrochemical Engineering	3	3											(alternative courses)/Master’s Program in Chemical Engineering
	Nano-Technology and Battery Material Synthesis Technique	3	3											
	Advanced Instrumental Analysis	3	3											(alternative courses)/Master’s Program in Chemical Engineering
	Li-ion Battery Technology			3	3									
	Advanced Solid State Chemistry			3	3									
	X-ray Diffraction Theory & Applications			3	3									(alternative courses)/Master’s Program in Chemical Engineering
	Subtotal	**9**	**9**	**9**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Professional Electives	Green Chemical Engineering Technology	3	3											
	Carbon Material Preparation and Its Application on LIB	3	3											
	Transmission Electron Microscopy Practice	3	3											(alternative courses)/Master’s Program in Chemical Engineering
	Advanced Electrochemical Analysis Techniques	3	3											
	Advanced Interface Chemistry	3	3											
	Fundamentals and Applications of Polymer Processing	3	3											
	Polymer Electrolyte Membrane Synthesis and its Application in Lithium-ion Battery			3	3									
	Advanced Solid-State Physics			3	3									
	Crystallization Technology of Battery Materials			3	3									
	Optoelectronic Semiconductor Processing			3	3									
	Battery Characterization & Analysis			3	3									
	Industries In Energy Storage and Biomass Energy			3	3									
	Specialty Chemical Technology and Applications			3	3									
	Advanced Energy Storage Technology	3	3											Integration and application courses
	Analysis on Thermofluid Engineering	3	3											Integration and application courses
	Advanced Power Electronics	3	3											Integration and application courses；Master’s Program in Electrical Engineering
	Automatic Measurement System	3	3											Integration and application courses
	Design and Applications of MEMS	3	3											Integration and application courses
	Energy Management System	3	3											Integration and application courses
	Advanced Technology of Power Battery	3	3											Integration and application courses
	Electric Vehicle Development and Application Technology	3	3											Integration and application courses
	Wearable Component Integration and Application Technology	3	3											Integration and application courses
	Advanced Vibration Theory			3	3									Integration and application courses
	Advanced Technology of Digital Signal Processing			3	3									Integration and application courses
	Battery Technology for MEMS Applications			3	3									Integration and application courses
	Advanced Technology of Mechatronics			3	3									Integration and application courses
	Green Energy Technology			3	3									Integration and application courses
	Alternative Energy Technology			3	3									Integration and application courses；Master’s Program in Mechanical and Electromechanical Engineering
	Electro-optical Engineering and Material			3	3									Integration and application courses；Master’s Program in Materials Engineering
	Display Technology			3	3									Integration and application courses； Master’s Program in Electronic Engineering
	Subtotal	**45**	**45**	**45**	**45**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

1.Graduation credits are a total of 31 credits, which comprise 10 credits for required courses, 9 credits for core electives and 12 credits for professional electives.(which shall include integration and application courses)(Core elective courses can be recognized as professional elective courses)

2.Dissertation of 12 credits are required after passing the degree dissertation examination.

3.A student may take any course opened for master’s programs in each graduate school during his or her study of the Ph.D. Program; however, the credits for the courses taken which are similar to any courses taken before admission to the Ph.D. Program shall not be included in the graduation credits.

4.A student may take professional elective courses of no more than 9 credits opened by another graduate school of Ming Chi based on the student’s specialties.

5.Graduation threshold of English proficiency: A student has to pass any of the English proficiency tests specified in the rules of English proficiency tests for Ph.D. students in the Ph.D. Program of Energy Battery Technology.

6.All courses in English.

7.The dual degree-course correspondence table between MCUT and NTUST is attached.