Table of Curriculum

※ Required subjects: At least two of the participant subjects related to battery education

Classification	Course No. (Computer Code)	Course Title	Lecturee:Lab.: Credit (Homework)	Semester	Note
Elective Courses	CBE571 (39.571)	Energy Engineering	3:0:3(4)	Fall	◎
Elective Courses	CBE591 (39.591)	Special Lectures in Chemical and Biomolecular Engineering	3:0:3	Spring, Fall	◎ Subtitle is assigned
Elective Courses	CBE771 (39.771)	Advanced Electrochemical Engineering	3:0:3(4)	Spring, Fall	□CBE371
Elective Courses	MS617 (34.617)	Solid-State Electrochemistry	3:0:3(3)	Spring	
Elective Courses	MS626 (34.626)	Physical Properties of Energy Materials	3:0:3	Spring	
Elective Courses	MS658 (34.658)	Materials science aspects of rechargeable batteries	3:0:3(3)	Fall	
Elective Courses	EE591 (35.591)	Introduction to Electric Vehicles	3:1:3	Spring	◎
Elective Courses	EE594 (35.594)	Power Electronics Systems	3:0:3	Fall	◎ □EE391
Elective Courses	EE772 (35.772)	Electronic Circuits for Green Energy	3:0:3	Fall	
Elective Courses	EE791 (35.791)	Power Conversion Circuits and Systems	3:0:3	Spring	□EE391, EE594
Elective Courses	EE897 (35.897)	Special Topics in Power Electronics	3:0:3	Spring, Fall	
Elective Major Courses	ME411 (B7.411)	Energy System Design and Optimization	3:0:3(3)	Fall	◎
Elective Major Courses	ME430 (B7.430)	Introduction to Reliability in Mechanical Engineering Design	3:0:3(6)	Fall	◎
Elective Major Courses	ME432 (B7.432)	Deformation, Fracture and Strength of Materials	3:0:3(6)	Spring	◎
Elective Major Courses	ME440 (B7.440)	Engineering Design via FEM	3:1:3(6)	Spring	◎
Elective Courses	ME800 (B7.800)	Special topics in Mechanical Engineering	3:0:3(6)	Spring, Fall	
Elective Major Courses	CH464 (23.464)	Electroanalytical Chemistry	3:0:3(3)	Spring or Fall	◎
Elective Major Courses	CH471 (23.471)	Introduction to Polymer Chemistry	3:0:3(3)	Spring or Fall	◎
Mandatory Major Courses	MO501 (G3.501)	Modeling and Control of Electric Propulsion Systems	3:3:4	Fall	◎
Mandatory Major Courses	MO506 (G3.506)	Fundamentals of Vehicular Electric Systems	3:0:3	Fall	◎
Elective Courses	MO531 (G3.531)	Battery System Modeling and Control	3:0:3	Fall	
Elective Courses	MO833 (G3.833)	Special Topics on Electric Power Systems	3:0:3	Spring or Fall	

Elective Courses	AI501 (F2.501)	Machine Learning for AI	3:0:3	Spring or Fall	◎
Elective Courses	AI502 (F2.502)	Deep Learning	3:0:3	Spring or Fall	
Elective Courses	AI503 (F2.503)	Mathematics for AI	3:0:3	Spring or Fall	
Elective Courses	AI504 (F2.504)	Programming for AI	3:0:3	Spring or Fall	
Elective Courses	AI505 (F2.505)	Optimization for AI	3:0:3	Spring or Fall	◎
Elective Courses	AI506 (F2.506)	Data Mining and Search	3:0:3	Spring or Fall	◎
Elective Courses	AI603 (F2.603)	Machine Learning Theory	3:0:3	Spring or Fall	
Elective Courses	AI608 (F2.608)	AI-based Time Series Analysis	3:0:3	Spring or Fall	
Elective Courses	AI616 (FS.616)	Deep Learning Theory	3:0:3	Spring or Fall	
Elective Courses	AI701 (F2.701)	Bayesian Machine Learning	3:0:3	Spring or Fall	
Elective Major Course	CS500 (36.500)	Design and Analysis of Algorithm	3:0:3(6)	Spring	◎/Theory
Elective Major Course	CS504 (36.504)	Computational Geometry	3:0:3(8)	Spring	◎/Theory
Elective Major Course	CS510 (36.510)	Computer Architecture	3:0:3(6)	Spring	◎/Computer Systems
Elective Major Course	CS520 (36.520)	Theory of Programming Languages	3:0:3(6)	Fall	◎/Theory
Elective Major Course	CS522 (36.522)	Theory of Formal Language and Automata	3:0:3(6)	Spring	◎/Theory
Elective Major Course	CS524 (36.524)	Program Analysis	3:0:3	Spring	◎/Theory
Elective Major Course	CS530 (36.530)	Operating System	3:0:3(6)	Spring or Fall	◎/Computer Systems
Elective Major Course	CS543 (36.543)	Distributed Systems	3:0:3(3)	Fall	◎/Computer Systems
Elective Major Course	CS546 (36.546)	Wireless Mobile Internet	3:0:3(5)	Spring or Fall	◎/Computer Systems
Elective Major Course	CS550 (36.550)	Software Engineering	3:0:3(4)	Spring	◎/Software
Elective Major Course	CS552 (36.552)	Models of Software Systems	3:0:3(10)	Fall	◎/Software
Elective Major Course	CS554 (36.554)	Designs for Software and Systems	2:3:3(4)	Fall	◎/Software

Elective Major Course	CS564 (36.564)	Data Science Methodology	3:0:3(6)	Spring or Fall	◎/Software
Elective Major Course	CS570 (36.570)	Artificial Intelligence and Machine Learning)	3:0:3(6)	Spring	◎/Software
Elective Major Course	CS572 (36.572)	Intelligent Robotics	3:0:3(6)	Fall	◎/Software
Elective Major Course	CS574 (36.574)	Natural Language Processing I	3:0:3(6)	Spring or Fall	◎/Software
Elective Major Course	CS579 (36.579)	Computational Linguistics	3:0:3(6)	Fall	◎/Theory
Elective Major Course	CS591 (36.591)	Software Ecosystem	3:0:3(5)	Fall	◎
Elective Major Course	CS592 (36.592)	Special Topics in Computing	3:0:3	Spring or Fall	◎
Elective Major Course	CS610 (36.610)	Parallel Processing	3:0:3(8)	Spring	Computer Systems
Elective Major Course	CS620 (36.620)	Advanced Compiler Construction	3:0:3(2)	Spring or Fall	
Elective Major Course	CS632 (36.632)	Embedded Operating Systems	3:0:3(6)	Fall	
Elective Major Course	CS634 (36.634)	Real-Time Systems	3:0:3	Spring or Fall	Computer Systems
Elective Major Course	CS650 (36.650)	Advanced Software Engineering	3:0:3(6)	Fall	
Elective Major Course	CS652 (36.652)	Software & Systems Product Line Engineering	3:0:3(6)	Spring or Fall	
Elective Major Course	CS654 (36.654)	Software Process	3:0:3(6)	Spring or Fall	
Elective Major Course	CS655 (36.655)	System Modeling and Analysis	3:0:3(6)	Spring or Fall	
Elective Major Course	CS656 (36.656)	Software Engineering Economics	3:0:3	Spring	
Elective Major Course	CS665 (36.665)	Advanced Data Mining	3:0:3	Spring or Fall	
Elective Major Course	CS670 (36.670)	Fuzzy and Intelligent System	3:0:3(6)	Spring or Fall	

Elective Major Course	CS671 (36.671)	Advanced Machine Learning	3:0:3(6)	Spring or Fall	
Elective Major Course	CS672 (36.672)	Reinforcement Learning	3:0:3(2)	Spring or Fall	
Elective Major Course	CS710 (36.710)	Special Topics in Computational Architecture	3:0:3(6)	Spring or Fall	
Elective Major Course	CS712 (36.712)	Special Topics in Parallel Processing	3:0:3(6)	Fall	
Elective Major Course	CS720 (36.720)	Special Topics in Programming Languages	3:0:3(2)	Spring or Fall	
Elective Major Course	CS730 (36.730)	Special Topics in Operating Systems	3:0:3(6)	Spring or Fall	
Elective Major Course	CS744 (36.744)	Special Topics in System Architecture	3:0:3(9)	Spring or Fall	
Elective Courses	IE523 (31.523)	Production System Design	3:1:3(5)	Spring	◎
Elective Courses	IE531 (31.531)	Linear Programming	3:1:3(6)	Spring	◎
Elective Courses	IE532 (31.532)	Simulation and System Modeling	3:1:3(6)	Spring	◎
Elective Courses	IE533 (31.533)	Systems Engineering	3:0:3(4)	Fall	◎
Elective Courses	IE536 (31.536)	Scheduling Theory and Applications	3:0:3(4)	Fall	◎
Elective Courses	IE541 (31.541)	Advanced Engineering Statistics	3:0:3(8)	Spring	◎
Elective Courses	IE542 (31.542)	Regression Analysis: Theory and Practice	3:0:3(6)	Spring	◎
Elective Courses	IE553 (31.553)	Product Lifecycle Management	3:1:3(6)	Spring	◎
Elective Courses	IE576 (31.576)	Risk Management	3:0:3	Fall	◎
Elective Courses	IE577 (31.577)	Fundamentals of Systems Engineering	3:1:3	Fall	◎
Elective Courses	IE631 (31.631)	Integer Programming	3:1:3(6)	Fall	
Elective Courses	IE636 (31.636)	Intelligent Systems & Soft Computing	3:0:3(3)	Fall	
Elective Courses	IE638 (31.638)	Wireless and Cellular Communication Systems	3:1:3(3)	Spring	
Elective Courses	IE645 (31.645)	Quality Engineering	3:0:3(6)	Spring	
Elective Courses	IE646 (31.646)	Data Mining	3:1:3(4)	Spring	