

Giriş Dönemi: Fall 2024-2025

BATTERY SCIENCE AND ENGINEERING MINOR UNDERGRADUATE PROGRAM (BATTERY MINOR)

Battery Science and Engineering minor program aims to provide education in Battery Science and Engineering by offering interdisciplinary foundational engineering skills along with courses specifically designed for batteries. These courses include electrochemistry, thermodynamics, materials characterization, power electronics, battery chemistry, battery science and engineering, battery design, manufacturing and modeling, and battery management systems (hardware and software). The program aims to develop both theoretical knowledge and practical skills through hands-on laboratory work in areas such as cell/battery design, testing, and characterization.

SUMMARY OF GRADUATION REQUIREMENTS

Course Category	Min AKTS Credit	Min SU Credit	Min Course
Required Courses	-	9	3
Core Elective Courses	-	6	2
Area Elective Courses	-	9	3
Total	-	24	8

Required Courses

Course	Course Name	AKTS Credit	SU Credit	Faculty
ENS 202	Thermodynamics	6	3	MDBF
ENGR 322/522	Battery Science and Engineering	6	3	MDBF
CHEM 405	Electrochemistry	6	3	MDBF

Core Elective Courses

At least 6 SU credits must be taken from the course pool below:

Course Name	Course Name	AKTS Credit	SU Credit	Faculty
ME 305	Power Electronics	6	3	MDBF
MAT 405	Advanced Materials Characterization	6	3	MDBF
*ENGR 424/524	Cell Design, Modelling and Battery Pack Development	6	3	MDBF
*ENGR 426/526	Battery Management Systems	6	3	MDBF

**These 2 new courses will be offered in 2025-2026.*

Area Elective Courses

At least 9 SU credits must be selected from the course pool below. - Additional courses taken from the Core Elective Courses pool will directly count towards the "Area Elective" requirements.

Course	Course Name	AKTS Credit	SU Credit	Faculty
MAT 204	Electrical, Optical and Magnetic Properties of Materials	6	3	MDBF
ME 309	Heat and Mass Transfer	6	3	MDBF
MAT 309	Transport Phenomena	6	3	MDBF
CHEM 301	Inorganic Chemistry	6	3	MDBF
ME 303	Control System Design	6	3	MDBF
CS 210	Introduction to Data Science	6	3	MDBF