

Master Thesis Defend Examination

Presented by

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Supervised EV charging Scheduling Algorithms with AMI System Coordination

Highlight Summary

As electric vehicles (EVs) continue to grow rapidly across Thailand, the challenge of managing charging demand without overloading distribution transformers has become increasingly critical. This study presents a comprehensive exploration of intelligent EV charging strategies, examining the performance of multiple scheduling algorithms—including Balance Load Sharing, First-Come First-Served (FCFS), Shortest Job First (SJF), Round Robin, and Priority Scheduling—within a smart grid environment enabled by Advanced Metering Infrastructure (AMI). By simulating real-world charging scenarios, the research reveals how each approach influences system efficiency, charging time, and user fairness. While Load Sharing demonstrates outstanding performance in minimizing charging duration and eliminating waiting queues, SJF effectively reduces delay, Round Robin enhances fairness through time allocation, and Priority Scheduling introduces flexibility based on user-defined importance. Beyond individual methods, the study further investigates hybrid algorithms that combine these strengths, offering a more adaptive and optimized solution for future power systems. The findings highlight a clear pathway toward smarter EV integration—one that not only improves operational efficiency and user experience but also ensures the stability and reliability of Thailand's electrical distribution network in the era of sustainable mobility.

Date	Time	Venue
12 May 2026	15.00 – 16.00	TGGS Building Room 406

Registration is open from today until 8 May 2026

QR Code for
Registration

