ADVANCED ENERGY STORAGE SYSTEMS (UNDERGRADUATE CERTIFICATE)

An admissions moratorium is currently in effect for this program.

The alternative energy economy relies heavily on advanced energy storage systems to prolong the life of energy generated by solar and wind systems. The changing nature of energy resources will increase the need for energy storage in both supply and demand. Energy storage facilities hold a key position in energy supply systems; the benefits of electric energy storage include increasing grid reliability, reducing system transmission congestion, helping manage load, and making renewable electricity sources more suitable as base load providers. Energy storage technologies are also critical to the future of the automotive industry, which is innovating rapidly around vehicle electrification.

The Undergraduate Certificate Program in Advanced Energy Storage Systems provides technically-oriented education that emphasizes the application of advanced technology to solve problems, design and develop products, and improve processes, procedures, equipment, and facilities. This program aims to prepare students for application-oriented careers in Advanced Energy Storage System industry, including storage in automotive, consumer, nuclear and green industries; advanced battery systems and hydrogen electro-chemical cells; mechanical energy storage; thermal and chemical storage; inductive storage based on superconducting magnetic field; and, social and economical aspects of storage technology.

Students must be concurrently enrolled in or have completed an undergraduate degree (B.S.) in Engineering, Engineering Technology, Chemistry, or Physics. Students who are currently pursuing a B.S. must have completed at least sixty credits of undergraduate engineering, engineering technology, chemistry, or physics coursework with a minimum of a 2.0 cumulative major g.p.a. Students must document satisfactory completion of all prerequisite courses (or their equivalent) with a grade of C- or higher.

Students interested in earning an Undergraduate Certificate in Advanced Energy Storage Systems must complete five courses:

Code	Title	Credits
ETT 4150	Fundamentals of Hybrid and Electric Vehicles	3
ETT 4310	Energy Storage Systems for Hybrid and Electric Vehicles	3
ETT 4410	Introduction to Advanced Energy Storage	3
MCT 4150	Applied Thermodynamics	3
MCT 5210	Energy Sources and Conversion	3
Total Credits		**15**

Program Standards

All students must earn at least a C grade in each of the courses to be applied towards the Certificate and complete the coursework with an overall g.p.a. of at least 2.0. Students concurrently enrolled in an engineering or engineering technology undergraduate program will be governed by overall policy on substandard grades for students pursuing a B.S. degree (one substandard grade allowed for every twenty-four credits completed at WSU). Students who have completed a B.S. degree and are pursuing only the Certificate will be allowed one substandard grade, with a subsequent successful repeat of the course, during completion of this academic program.