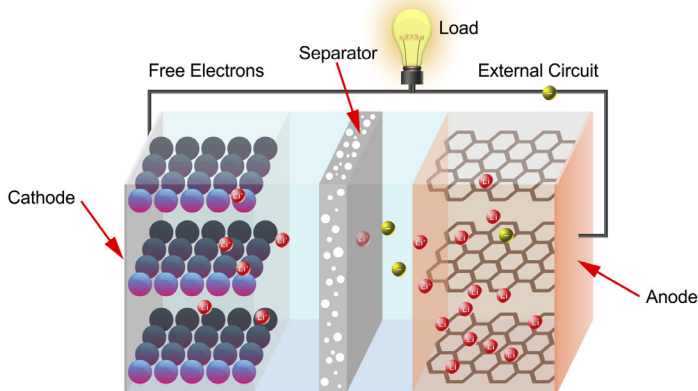


LITHIUM-ION BATTERY MATERIALS

eLearning courses designed to increase productivity and profits



Learning made Simple, Visual, and Interactive

The THORS *Lithium-Ion Battery Materials* course discusses the basic components of a lithium-ion battery (LIB), along with the particulars of materials used and key characteristics. The advantages and limitations of each battery material used to make a lithium-ion battery are also covered in detail.

Credit Hours **2**

Learning Objectives

- 💡 Define LIB and its significance.
- 💡 Learn the basic components of the LIB.
- 💡 Examine the different materials used in each component of the LIB.
- 💡 Compare the advantages and limitations of materials used in each component of the LIB.
- 💡 Understand the key characteristics and properties of LIB components.

Table of Contents

I. Electrodes

- **Anode**
 - Materials Used
 - Graphite
 - Alternate Materials
 - Anode Key Characteristics and Properties
 - Anode Key Characteristics
 - Anode Properties Monitoring
- **Cathode**
 - Materials Used
 - Charging Voltage
 - Structure
 - Chemistry

I. Electrodes (continued)

- Cathode Challenges and Improvement
 - Overcharge
 - Cathode Material Improvement
- Cathode Key Characteristics and Properties
 - Cathode Key Characteristics
 - Cathode Properties Monitoring

II. Other Components

- **Electrolyte**
 - Materials Used
 - Electrolyte Types and Additives
 - Electrolyte Types
 - Electrolyte Additives

II. Other Components (continued)

- Electrolyte Key Characteristics and Properties
- **Separator**
 - Materials Used
 - Microporous Polymer Membrane
 - Alternate Materials
 - Separator Challenges and Defects
 - Separator Challenges
 - Separator Defects
 - Separator Key Characteristics and Properties

