

University of Illinois Fire Service Institute

Course Syllabus

Course Title: Renewable Energy

Course Duration: 4 Hours

Program: Industrial / Firefighting

Course Prerequisites: None

Course Description: This four-hour class is designed for firefighters up to chief officers. The class will cover renewable energy sources, focus on their use, and how we store the energy that each create. This program will get into hydropower, hydrogen, biomass, geothermal, wind, and solar. We have added battery energy storage systems to help understand and prepare better for responses related to a household unit or commercial facility.

Course Requirements:

Pre-Course Work – None
Course Work – None
Post-Course Work – None

Course Policies:

Safety Policy: Students shall understand and follow all instructions pertaining to operational safety, as stated by instructors or as written in course materials. Instructors and students shall be mindful of safety at all times. Conduct judged to be unsafe shall be grounds for dismissal from the course.

Academic Integrity Policy: IFSI has the responsibility for maintaining academic integrity so as to protect the quality of the education provided through its courses, and to protect those who depend upon our integrity. It is the responsibility of the student to refrain from infractions of academic integrity, from conduct that may lead to suspicion of such infractions, and from conduct that aids others in such infractions. Any violation of the code of conduct is grounds for immediate dismissal from the course.

American Disabilities Act: As guaranteed in the Vocational Rehabilitation Act and in the American Disabilities Act, if any student needs special accommodations, they are to notify their instructor and provide documentation as soon as possible so arrangements can be made to provide for the student's needs. If arrangements cannot be made at the class site, the student will test at an alternative time and place where the special accommodations can be made.

Course Content:

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Module: 1

Title: Types of Energy: Nonrenewable / Renewable

Terminal Learning Objective: At the conclusion of this module, the student will explain different types of energy and how each function as a part of renewable energy.

Module: 2

Title: Let's Look at Some Renewable Energy

Terminal Learning Objective: At the conclusion of this module, the student will list different renewable energy sources and how they function to supply power to the grid.

Module: 3

Title: Battery Energy Storage System

Terminal Learning Objective: At the conclusion of this module, the student will define what Battery Energy Storage Systems (BESS) are and how they may have faults that first responders need to manage.

Module: 4

Title: Firefighters Get Started

Terminal Learning Objective: At the conclusion of this module, the student will provide information on how to manage or handle different events occurring in the field they respond to.

Reference List:

Renewable Energy (nontechnical guide) by David Wagman, PennWell Books, LLC 2024

Recommended Reading List:

The following readings are not required before, during, or after the course.

Renewable Energy (nontechnical guide) by David Wagman, PennWell Books, LLC 2024

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Course Schedule

DAY ONE

<u>Event</u>	<u>Duration</u>
Module 1 – Types of Energy	30 Minutes
Module 2 – Let's Look at Some Renewable Energy	1 Hour 30 Minutes
Module 3 – Battery Energy Storage System	1 Hour 30 Minutes
Module 4 – Firefighters Get Started	30 Minutes
