

CURRICULUM OUTLINE

Modules and Learning Objectives

Clean and Equitable Energy Development Certificate Program

COURSE	#	MODULE	LEARNING OBJECTIVES
Foundations  This newly integrated Foundations course brings together energy, justice, and finance fundamentals into one seamless introduction, structured across three modules.	1	Energy Foundations	<ul style="list-style-type: none"> Learn core energy concepts including units, conversions, thermodynamics, electromagnetism, and the basics of electricity transmission. Understand how energy is generated, distributed, and measured.
	2	Environmental and Climate Justice Foundations	<ul style="list-style-type: none"> Explore foundational justice frameworks, the history of environmental and climate justice, and global case studies. Understand the intersection of justice and energy through the lens of equity and case-centered approaches.
	3	Introduction to Project Finance	<ul style="list-style-type: none"> Gain an entry-level understanding of how clean energy projects are financed. Learn key financial principles, structures, and tools used in energy project development.
Energy Justice  Examine the roots of energy inequity and explore strategies to embed justice into clean energy decision-making through real-world case studies and collaborative learning.	1	Introduction and Energy Justice Concepts	<ul style="list-style-type: none"> Learn about energy justice terms and frameworks. Identify restorative and voice-centering approaches of energy justice. Learn about how energy justice can be incorporated into energy projects. Discuss the Just Energy Transition.
	2	Energy Justice Challenges	<ul style="list-style-type: none"> Discuss challenges related to energy production and access. Reflect on case studies that integrated energy justice considerations. Learn more about the Just Energy Transition. Building Energy Justice Case Study Part I – Location and History
	3	Energy Poverty and Global Justice Issues	<ul style="list-style-type: none"> Reflect on the relationship between energy poverty, energy services, and energy needs. Discuss energy poverty as it relates to global justice issues. Share best practices that can be adopted in clean energy projects to address energy poverty. Building Energy Justice Case Study Part II - Local Realities and Global Context
	4	Renewable Energy and the Just Energy Transition	<ul style="list-style-type: none"> Learn about renewable energy development (RED). Reflect on the energy and environmental justice implications of RED. Learn about the social challenges related to the Just Energy Transition. Building Energy Justice Case Study Part III – Scenario Analysis
	5	Just Energy Transition: Cases and Projects	<ul style="list-style-type: none"> Reflect on how the Just Energy Transition has included other concepts such as clean, equitable, and affordable. Share different perspectives about best practices to improve and rethink energy systems. Building Energy Justice Case Study Part IV – Proposing Solution and Mitigation Strategy

Clean Energy Development



A guided, project-based course that walks participants through the entire lifecycle of clean energy projects with a focus on community impact, equity, and practical application.

1	Introduction to Clean Energy Project Development	<ul style="list-style-type: none"> An overview of the clean energy project lifecycle—early-stage ideation through O&M. Explore key roles, timelines, and partnerships in development processes. Learn how to identify viable project opportunities. Final Project Phase I – Team Formation and Site Selection
2	Clean Energy Project Financials	<ul style="list-style-type: none"> Understand project financing structure. Basic understanding of capital stacks, risk assessment, and project bankability. Understand how financial strategies align with development stages. Final Project Phase II – Financial Structuring
3	Interconnection and Energy Markets	<ul style="list-style-type: none"> Understand how projects connect to the grid Learn how interconnection affects feasibility and value. Learn about project design essentials (performance engineering, CapEx estimates, structure and technical concepts, among others). Final Project Phase III – Interconnection and Market Strategy
4	Siting and Stakeholder Engagement	<ul style="list-style-type: none"> Learn how to evaluate site suitability, navigate permitting, and manage environmental and regulatory considerations. Through the Final Project, design stakeholder engagement strategies that prioritize long-term community benefit. Explore how inclusive practices strengthen both project and community outcomes. Final Project Phase IV – Stakeholder Plan and Siting Justification
5	Origination and Offtake	<ul style="list-style-type: none"> Understand the multiple options for monetizing your energy project Learn about trading markets for electricity Explore strategies for matching generation with energy buyers. Final Project Phase V – Offtake Strategy and Partnership Planning
6	Supply Chain and Procurement	<ul style="list-style-type: none"> Understand how global supply chain and logistics affect projects. Learn about equipment sourcing, vendor management, and contract negotiation. Final Project Phase VI – Procurement and Risk Mitigation Plan
7	Construction and Operations & Maintenance (O&M)	<ul style="list-style-type: none"> Explore the phases of project execution and construction. Understand best practices in O&M to ensure long-term project performance. Final Project Phase VII – Implementation and O&M Strategy
8	Final Project Pitch and Wrap-Up	<ul style="list-style-type: none"> Synthesize your learning into a collaborative team pitch deck. Present your project to faculty and industry professionals for expert feedback. Reflect on your leadership growth and project development journey. Final Project Phase VIII – Team Presentation and Graduation