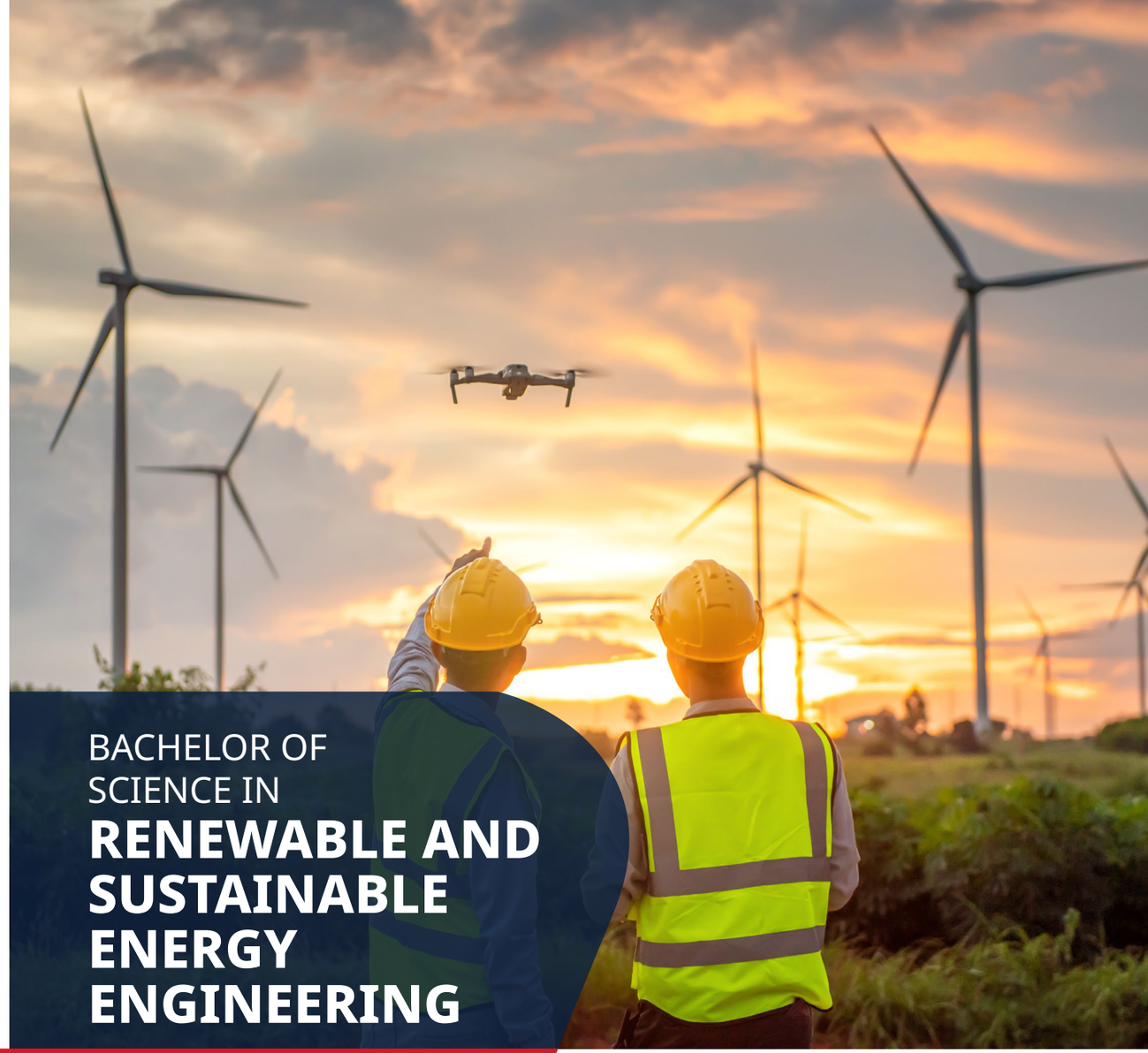
Curriculum

COURSE CODE	COURSE TITLE	COURSE CODE	COURSE TITLE	COURSE CODE	COURSE TITLE
General Education Requirements: 21 Credit Hours					
ARL 100	Communication Skills in Arabic I	ENG 200	English II	FWS 205	UAE and GCC Society
FWS 305	Technical Communications for Work Place	FWS 310	Fundamentals of Innovation and Entrepreneurship	ISL 100	Islamic Culture
MTT 102	Calculus I	STT 100	General Statistics		
Degree Requirements: 42 Credit Hours					
RSN200	Intro. to Renewable and Sustainable Energy Engineering	MTT 200	Calculus II	IEN220	Probability and Statistics
MTT 204	Introducation to Linear Algebra	MTT 205	Differential Equations	PHY 102	Physics and Engineering Applications I
PHY 102L	Physics and Engineering Applications I Lab	PHY 201	Physics and Engineering Applications II	PHY 201L	Physics and Engineering Applications II Lab
CSC 201	Computer Programming I	CHE 205	General Chemistry I	CHE 201L	Chemistry lab
COE101	Introductory Artificial Intelligence	COE 202	Engineering Ethics, Economy, and Law		
Major Requirements: 76 Credit Hours					
RSN215	Engineering Mechanics	RSN325	Internet of Energy Efficient Things	RSN301	Energy Materials
MEC320	Thermodynamics I	MEC410	Control Systems	MEC420	Heat Transfer
MEC350	Fluid Mechanics	CEN201	Electric Circuits I	EEN220	Electric Circuits II
CEN304	Electronic Devices and Circuits	CEN320	Signals and Systems	EEN441	Photovoltaics and Solar Energy
EEN345	Power Systems	RSN399i	Internship in Renewable & Sustainable Energy Engineering I	RSN399ii	Internship in Renewable & Sustainable Energy Engineering II
RSN450A	Renewable & Sustainable Energy Eng'g Design Project I	RSN450B	Renewable & Sustainable Energy Eng'g Design Project II	RSN323	Modeling and Simulation of Energy Systems
RSN404	UAE Energy Regulations and Standards	RSN352	Thermal Energy	RSN460A	Hybrid Smart Vehicles Project –Materials and Energy
RSN460B	Hybrid Smart Vehicles Project – MEC Design	RSN460C	Hybrid Smart Vehicles Project – AI Design	RSN480	Energy-Efficient Green Building Design
RSN455	Wind Energy	RSN477	Nuclear Energy	RSN411	Grid Integration of Renewable Energy
RSN485	Energy Storage				
Major and Open Electives: 9 Credit Hours					
ME1	Major Elective I	ME2	Major Elective II	OE1	Open Elective I



BACHELOR OF SCIENCE IN

RENEWABLE AND SUSTAINABLE ENERGY ENGINEERING

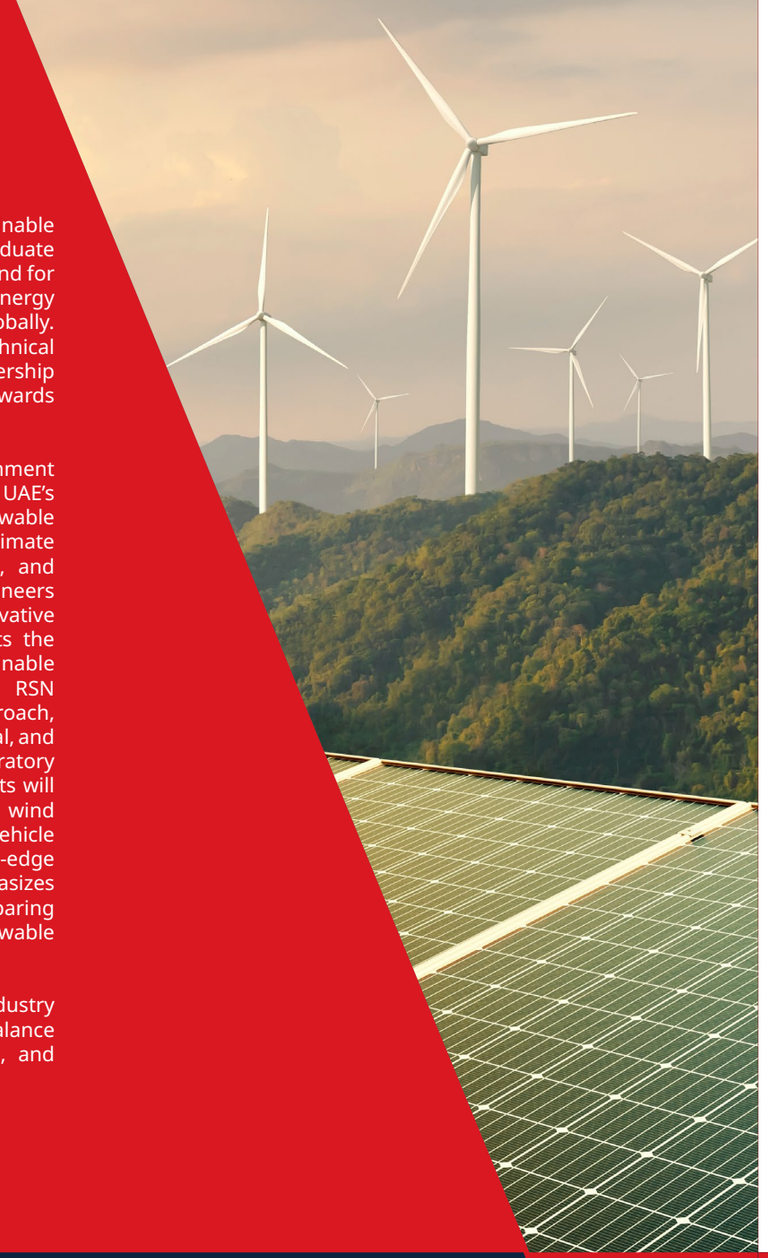
جامعة أبوظبي
Abu Dhabi University
College of Engineering

Program Overview

The Bachelor of Science in Renewable and Sustainable Energy Engineering (BSc RSN) is an undergraduate program designed to address the growing demand for skilled engineers in renewable and sustainable energy systems, both locally within Abu Dhabi and globally. This program equips students with the technical knowledge, problem-solving abilities, and leadership skills necessary to contribute to the transition towards sustainable energy solutions.

The importance of this program lies in its alignment with global sustainability goals and the UAE's commitment to clean energy initiatives. Renewable energy is a critical sector for addressing climate change, reducing dependency on fossil fuels, and promoting energy security. By training engineers capable of designing and implementing innovative energy systems, the program directly supports the region's economic diversification and sustainable development strategies. What sets the BSc RSN program apart is its interdisciplinary approach, combining core principles of electrical, mechanical, and environmental engineering with hands-on laboratory experiences and project-based learning. Students will study advanced topics such as photovoltaics, wind energy, energy storage, and hybrid smart vehicle systems, gaining practical expertise in cutting-edge technologies. Additionally, the program emphasizes sustainability, ethics, and local regulations, preparing graduates to meet the unique challenges of renewable energy integration in the UAE and beyond.

This program is a response to the growing industry and societal need for energy solutions that balance economic growth, environmental preservation, and social well-being.



Program Mission

The mission of the Bachelor of Science in Renewable and Sustainable Energy Engineering program is to provide students with essential knowledge and skills to develop innovative and sustainable energy solutions. The program emphasizes advanced training in renewable energy systems, energy storage, and hybrid technologies while fostering an understanding of sustainability principles, ethics, and regulations. Graduates will be prepared to address complex energy challenges and contribute to the UAE's clean energy vision and global sustainability goals.

Career Prospects

Graduates of the Renewable and Sustainable Energy Engineering program have great job opportunities in the following places:

- Renewable Energy Engineer
- Sustainable Building / Green Building Engineer
- Energy Efficiency Engineer
- Power Systems / Grid Integration Engineer
- Energy Storage Systems Engineer
- Hybrid and Smart Vehicle Systems Engineer
- Energy Policy & Regulatory Analyst