SUSTAINABLE ENERGY, PHD

CSE's Sustainable Energy PhD program provides students with extensive knowledge in topics related to sustainable energy and the impact of growth, urbanization, transportation and manufacturing on energy and overall sustainable development.

The programs also look at the implications and drivers of sustainable policymaking on society, the economy, and the environment.

For more information, click here (https://www.hbku.edu.qa/en/cse/phd-sustainable-energy/).

Requirements

Minimum hours required to complete program 60 CH

Code	Title	Hours
Core Courses		
SENS 601	Research Methods and Ethics	3
SENS 611	Sustainability Fundamentals and Tools	3
Select one of the following:		3
CSE 602	Statistics for Science and Engineering	
CSE 603	Advanced Mathematics	
CSE 605	Computational Data Analytics	
CSE 606	Numerical Methods for Scientists and Engineers	
CSE 607	Advanced Systems Optimization	
Subtotal		9
Elective Courses		
Select three of the following:		9
Free elective: Students can take one course from any HBKU program		
CSE 770	Nano-Bio-Technology	
CSE 785	Innovation Entrepreneurship and Leadership I	
CSE 786	Innovation Entrepreneurship Leadership II	
SENR 615	Oil and Gas Geopolitics	
SENR 724	Solid State Physics	
SENR 727	Science and Engineering of Thin Films and Interfaces	
SENR 740	Energy Resources, Generation, Science and Technology	
SENR 741	Oil and Gas Technology and Economics	
SENR 742	The Life Cycle of Oil and Gas Fields	
SENR 743	Photovoltaic Solar Technology	
SENR 744	Renewable Energy Systems	
SENR 750	Energy Storage Devices and Systems	
SENR 754	Smart Power Grids	
SENR 755	Micro-grids: Operation, Management and Planning	
SENS 681	Integrated Sustainable Design for the Built Environment	
SENS 706	Independent Studies	
SENS 712	Environmental Quality and Health	
SENS 714	Sustainability: Energy, Environment and Economics	
SENS 715	Life Cycle Assessment - LCA	
SENS 716	Efficiency: Resource Use and Behavioural Analysis	
SENS 718	Sustainable Cities and Urban Mobility	
SENS 719	Energy Water Food (EWF) Nexus	
SENS 721	Advanced Materials Synthesis and Characterization	
SENS 722	Sustainable Chemical Industry - A Green Approach	
SENS 728	Electrochemistry and Environmental Corrosion	
SENS 729	Electrochemistry and Electrochemical Processing	
SENS 762	Advanced Transport Phenomena	
SENS 780	Green Building: Design, Construction and Operation	
SENS 785	Innovation Entrepreneurship Leadership I	
SENS 786	Innovation Entrepreneurship Leadership II	
SENS 791	Geospatial Information Systems	
SENV 713	Environmental Impact and Management Systems	
SENV 745	Energy NanoTechnology	
SENV 760	Air Quality and Climate Change	
SENV 761	Atmospheric Chemistry and Climate Change	
SENV 770	Desalination Technologies	
SENV 772	Water and Wastewater Treatment	
SENV 773	Water Resources Management	
SENV 774	Water Treatment and Reuse	
SENV 776	Solid and Hazardous Waste Management	
SENV 778	Principles of Hydrogeology	
Subtotal		9
Seminar		
Must pass twice		
SENS 701	Research Seminars	0
Subtotal		0
Dissertation		
SENS 890	Dissertation Hours	0-9
Subtotal		42
Non-Course Requirements		
899	Dissertation Defense	0
790	Doctoral Qualifying Exam	0
799	Candidacy Exam	0
Total Hours		**60**

Study Plan

Course	Title	Hours
First Year		
First Semester		
SENS 601	Research Methods and Ethics	3
SENS 611	Sustainability Fundamentals and Tools	3
SENS 701	Research Seminars	0
Elective 1		3
	Semester Hours	**9**
Second Semester		
SENS 701	Research Seminars	0
CSE 60X	Core 3	3
Elective 2		3
Elective 3		3
	Semester Hours	**9**
Second Year		
First Semester		
SENS 890	Dissertation Hours	9
	Semester Hours	**9**
Second Semester		
SENS 890	Dissertation Hours	9
	Semester Hours	**9**

Third Year		
First Semester		
SENS 890	Dissertation Hours	9
	Semester Hours	**9**
Second Semester		
SENS 890	Dissertation Hours	9
	Semester Hours	**9**
Fourth Year		
First Semester		
SENS 695	Master's Thesis Hours	6
	Semester Hours	**6**
	Total Hours	**60**