



Number of Courses/Subjects Related to Sustainability Offered :

Description:

The following is the list of the courses under various programs which had embedded sustainability into its content offered by the University. The list also includes courses with sustainability under preparatory studies, and those that include the Sustainability in Practice Certificate as part of the core curriculum.

Total number of courses with sustainability embedded for courses running during 2020/2021: 231

S.No.	Course Title	Notes [Provide the details of the number of modules (i.e. Lesson) focusing on sustainability]
1	Environmental Microbiology	Beside the basics of environmental microbiology the course involves 4 modules on bioremediation and biological treatment of wastewater treatment as well as the bioremediation
2	Air contaminants measurement and control	The course explores the governmental regulations, emission standards, air-quality standards, processes, and equipment for controlling emissions. It explains the basic guidelines for air quality control measures for mobile and stationary sources of air pollution including effective actions, strategic plans, replacing sources with environmentally friendly materials, and using of control equipment and tools. Also, the course provides a good idea for indoor air quality including sources of pollution, most affecting factors, and best control measures. The course is supported by lab and field studies to perform its theoretical parts.
3	Biohazards in workplace	Beside the basic knowledge on infection Control. It covers different methods of sterilization and disinfection used in healthcare facilities. Also, the course will cover special topics about management of different forms of biohazards wastes including liquid, solid and sharps.
4	Occupational Health Psychology	The industrial psychology course is concerned with the application of psychological theories and principles to organizations. It focuses on increasing efficiency, productivity, and related issues as the physical and mental well-being of employees at industrial organizations.
5	Fire Safety	This course introduces the basic principles of fire and fire prevention in the work place. Emphasis will be placed on evaluating existing and planned facilities from a fire and explosion standpoint, and applying the basic principles of hazard recognition, evaluation and control when developing fire prevention and emergency response activities. In addition, the course will introduce applicable legislation and fire codes, occupancy requirements, and construction considerations for fire safety. Moreover, the course will discuss the role of firefighters in life safety and prevention activities.
6	Physical Hazards and Control	Besides focusing on the basic information of the physical hazards in occupational settings. Throughout this course, the student will learn what are the different types of physical hazards. He will also learn what are the main sources and the health risks associated with these hazards in occupational settings. Additionally, he will learn how to measure exposures and implement controls to physical hazards according to local and international occupational standards and guidelines.



7	Chemical Hazards and Control	The course studies various chemical concepts and hazards. It identifies the sources and types of different chemical hazards that emanate from each source and studies their health effects. It also studies the various safe methods for transporting, storing, using the final disposal of chemicals. Determine the effects of different chemicals and establish appropriate measures to control them .
8	Health, Safety and Environmental Management Systems	The course introduces the principles of applying a system that implements the Health, Safety and Environmental policy. Identify the Health, Safety and Environmental Management Systems (HSEMS), Policy & Leadership, Risk Assessment, Strategic Planning, Goals & Objectives, Legal Requirements & Standards of Operation, Nonconformance Investigation & Corrective Action Awareness, Training & Competency, Audits, and Review. Demonstrates how the HSEMS can systematically identify, assess and manage the operational risks to employees, contractors, stakeholders, business and the environment. Explains the methodologies of HSEMS in providing on-going identification, prioritization and control of risks and maintaining a continuous improvement for the HSE in the organization.
9	Accidents Investigation and Loss prevention	This course introduces the concepts of how accidents/incidents are caused and provide evidence to support the analysis and investigation of these causes. It analyzes a variety of sources, from historical perspectives to current behavioral theories, for their application to today's workplaces. Discusses accident investigation techniques and their legal implications. Students will conduct a real or mock accident investigation as part of their course requirements.
10	Emergency and Disaster Management	This course provides a foundation of knowledge to hazards, susceptibility, and to care for the most vulnerable group of the communities or/and areas. Emphasis is placed on hazards, causal factors of disasters as well as strategies to address many emergencies and problems that arise out of disasters and have impacts on public health.
11	Occupational Risk Assessment	The course introduces the concepts and general principles of risk analysis, assessment, and management as required for effective occupational health and safety practice. The course discusses the qualitative risk identification methods and quantitative risk assessment methods and techniques. It also explains in a detailed approach to the risk management strategy and the process of managing risks in different workplace environments.
12	Environmental Impact Assessment	This course is designed to introduce a systematic process for predicting, and evaluating the significant environmental consequences of a proposed action or undertaking. Impact Assessment course aims to equip the students with latest knowledge and provide guidelines to make them able to conduct an environmental impact assessment. EIA course explains the evolution of EIA to current status, the legal framework, concepts, processes and principles of EIA and associated studies. It provides a general background to impact assessment at the project level focused on the science and technical aspects of EIA, it intends also to clear the other factors, such as resource availability and political constraining EIA effectiveness. The ultimate goal of Environmental Impact Assessment (EIA) course is intended to improve environmental protection.



13	Industrial Safety	This course is an introduction to major concepts and issues in industrial safety. This course examines industrial safety practices needed to address occupational safety and health issues in the workplace. This course relies on the various legislations applicable to an industrial safety. Provide exposure to hazardous processes in Factories with participation in an observational visit to a local manufacturing plant. Develop Managerial Abilities, Analytical Skills, communicate with the community and interaction with Safety professionals
14	Radiation Safety	This course aims to enable the student to acquire a basic understanding of radiation interaction and its effect on human biological tissue and environment. It provides instruction on the nature of radiation and radioactivity, the hazard and risk it presents, the necessary control measures, and the application and method of compliance with relevant radiation safety legislation.
15	Home Safety	Home is a place where many people spend most of their times. Although the home is perceived to be a safer place, it is found as one of the common locations for injury. It is an introduction to the home safety policies. Provides an overview of home environment hazards, with major focus on developing countries. Examines a variety of influential factors, interactions with human health and well-being, and relevance to public health. This course provides the students with the necessary knowledge, principles and skills that enhance them to assess and minimize home safety hazards. Explores methods of integrating safety programs in different home environment operations. Investigates issues related to home safety and public health concern such as responsibility for safety, dependency on safe practice, and hierarchy of prevention. Develops skills in home safety hazard recognition, accident causes and investigations. Understanding the psychological and financial impacts of home safety incidents.
16	Food safety	This course will define the reasons for food poisoning and contamination, ways of treatment, standards and regulations necessary for healthy food, measurement of pollution and foodborne diseases and health risks related to food. There will be knowledge to understand some related areas of food safety.
17	Noise Exposure and control	The fundamentals of sound wave description and propagation, noise control techniques, the hearing mechanism, acoustic instrumentation, noise criteria, psychoacoustics, sound source types and radiated sound fields, outdoor sound propagation, sound power measurement techniques, sound in enclosed spaces, sound transmission loss, acoustic enclosures, acoustic barriers, pipe lagging and reactive and dissipative mufflers.
18	LANDS. ARCH. DESIGN STUDIO V (SITE DESIGN)	Credit hours 5
19	LANDSCAPE DESIGN PRINCIPLES & PROCESS	Credit hours 3
20	ENVIRONMENT & ECOLOGICAL SYSTEMS	Credit hours 2
21	LANDS. ARCH. DESIGN STUDIO VI (SITE PLANNING)	Credit hours 5
22	PLANTING DESIGN	Credit hours 3



23	SITE ENGINEERING 1	Credit hours 3
24	ENVIRONMENTAL MANAGEMENT	Credit hours 2
25	LA. PROJECT MANAGEMENT	Credit hours 3
26	LANDS. ARCH. DESIGN STUDIO IX (PROFESSIONAL)	Credit hours 6
27	LANDS. ARCH. DESIGN STUDIO VII (URB. LAND. DESIGN)	Credit hours 6
28	SITE CONSTRUCTION MATERIALS & TECHNIQUES	Credit hours 3
29	IRRIGATION SYSTEMS DESIGN	Credit hours 3
30	URBAN LANDSCAPE DESIGN PRINCIPLES	Credit hours 2
31	LANDS. ARCH. DESIGN STUDIO VIII (LANDSCAPE PLANNING)	Credit hours 5
32	CONTEMPORARY ISSUES IN LA	Credit hours 2
33	LANDSCAPE PLANNING	Credit hours 2
34	PROFESSIONAL PRACTICE	Credit hours 3
35	LANDS. ARCH. DESIGN STUDIO X (GRADUATION PROJECT)	Credit hours 7
36	Environmental Design I	2-hour credit hour theoretical lecture
37	DESIGN IV	4 credit hour – 8 contact hour practical course where the student learn to apply passive design method for ventilation and other services
38	Environmental Control Systems I	2 theoretical hours and 1 case study
39	Construction Systems and Materials	3 credit hours, 2 theoretical lectures and 1 practical implementation
40	Environmental design II	2 theoretical hours and 1 case study
41	Environmental Engineering and Energy Systems 1	2-hour credit hour theoretical lecture
42	Master Thesis	A research project that student submit a thesis from it.
43	ARCH-222 Environmental Control Systems I	Understand the direct relationship between the climate (macro and micro) and human comfort. A brief introduction to climatology and weather deviations. Explaining the techniques and tools of analyzing and controlling the macro and micro climatic factors affecting the building.
44	ARCH 401: Design VII	Address the issues of sustainability in design development & Incorporate the issue of sustainability in housing design.
45	ARCH 402: Design VIII	Develop an understanding of urban sustainability as an integral part of urban design & Incorporate the issue of sustainability in urban design.
46	Arch 521: Contemporary Issues in Architecture	Study the Sustainable Architecture: Energy Crisis, Green Architecture and Energy Responsive Design.



47	Arch 321: Construction Systems and Assemblage	Special emphasis on the issue of sustainability and how it can be incorporated in construction.
48	Arch Elective Special Topics in Sustainability	Energy and simulation applications in buildings
49	Building Services 3: Mechanical Systems	2 theoretical hours and 1 case study
50	Environmental Engineering 2: Building Acoustics	2 theoretical hours and 1 case study
51	Building Maintenance and Supervision	2-hour credit hour theoretical lecture
52	Environmental Engineering 3: Building Illumination	2 theoretical hours and 1 case study
53	Professional Practice	2-hour credit hour theoretical lecture
54	Design Studio X: Technical Project (Integrated Design Systems)	4 credit hour – 8 contact hour practical course where the student learn to apply passive design method for ventilation and other services
55	Capstone Project	A research project that student submit a report from it.
56	Design Studio (5)	*Two 5hour workshop in studio
57	Urban Geography	*One 3hour in lecture
58	Planning History & Theory	*One 3hour in lecture
59	Design Studio (6): Neighborhood Planning	*Two 5hour workshop in studio
60	Urban Design Theory	*One 3hour in lecture
61	Housing & Residential Development	*One 3hour in lecture
62	Design Studio (7): Urban Planning	*Two 5hour workshop in studio
63	Planning Methods & Techniques (1)	*One 3hour in lecture
64	Urban and Regional Economics	*One 3hour in lecture
65	Urban Sociology	*One 3hour in lecture
66	Planning Methods & Techniques (2)	*One 3hour in lecture
67	Urban Transportation Planning	*One 3hour in lecture



68	Design Studio (8): Regional Planning	*Two 5hour workshop in studio
69	Regional Planning	*One 3hour in lecture
70	Infrastructure Planning	*One 3hour in lecture
71	Planning for Sustainable Development	*One 3hour in lecture
72	Design Studio (9): Graduation Project (1)	*Two 5hour workshop in studio
73	Rural Planning and Development	*One 3hour in lecture
74	Special Topics in Urban Design and Housing	Elective. One 3hour in lecture
75	Design for Large Public Space	Elective. One 3hour in lecture
76	Housing Analysis & Design	Elective. One 3hour in lecture
77	Cityscape & Beautification	Elective. One 3hour in lecture
78	Social Policy Planning	Elective. One 3hour in lecture
79	Special Topics in Sustainability & Desert	Elective. One 3hour in lecture
80	Desert Development and Technology	Elective. One 3hour in lecture
81	Urban Digital Impacts	Elective. One 3hour in lecture
82	Urbanization in Saudi Arabia	Elective. One 3hour in lecture
83	Planning Law & Administration	*One 3hour in lecture
84	Design Studio (10): Graduation Project (2)	*Two 5hour workshop in studio
85	Urban Image	Elective. One 3hour in lecture
86	New Towns and Recent Urban Development	Elective. One 3hour in lecture
87	Facilities Planning	Elective. One 3hour in lecture
88	Social & Community Services Planning	Elective. One 3hour in lecture



89	Environmental Impact Assessment of Transportation	Elective. One 3hour in lecture
90	City Management & Administration	Elective. One 3hour in lecture
91	Knowledge-based Spatial Development	Elective. One 3hour in lecture
92	Special Topics in Urban & Regional Planning	Elective. One 3hour in lecture
93	Urbanization & Urban Development	Elective. One 3hour in lecture
94	Information Security Management	One 2 hours and one 1-hour lecture
95	Biochemistry II BIOCH 407	2-hour lecture and 2-hour laboratory study
96	Biochemistry 1 401	3-hour in lecture and 2-hour laboratory study
97	Food Chemistry CHEM 551	2-hours lecture and 2-hour laboratory study
98	Professional Responsibility (CSH-Jubail)	2 hours in lecture
99	Introduction to the Principles of jurisprudence	Islamic discourse offers a sense of hope and optimism about the possibility of attaining harmony between human and nature. Earth will find a balance if humans rethink their lifestyles and mindsets as stated in the Quran: "Corruption has appeared in both land and sea Because of what people's own hands have brought So that they may taste something of what they have done So that hopefully they will turn back " Qur'an 30: 41
100	Enterprise Architecture (CCSIT)	This course has a two-hour lecture and a case study discussing environmental sustainability and enterprise architecture, and green computing. This course is scheduled to be taught next semester as per the new curriculum.
101	Professional Responsibility (CCSIT)	Being a sustainable practitioner by taking into consideration cultural and environmental impacts of implementation decisions (e.g. organizational policies, economic viability, and resource consumption). Based on the updated curriculum, the course team will be teaching this topic next semester.
102	Professionalism, DPH 304 (Dentistry)	Describe measures used for personal protection in the clinic, describe procedures for sterilization and disinfection; discuss the proper methods of disposal of waste in dental clinics and labs; discuss chemical management of dental unit waterlines; select infection control measures appropriate for particular situation; discuss the ergonomic design of dental clinics; describe measures used for personal protection in the clinic
103	Introduction to Public Health	The course is as a part of Public Health program which include16 lectures on sustainability as embedded
104	Health Service Administration	The course is as a part of Public Health program which include15 lectures on sustainability as embedded



105	Nutrition	The course is as a part of Public Health program which include 15 lectures on sustainability as embedded
106	Waste Management	The course is as a part of Public Health program which include 15 Theoretical and Practical Lessons on sustainability as embedded
107	Geriatrics	The course is as a part of Public Health program which include 16 lectures on sustainability as embedded
108	Evidence based public health	The course is as a part of Public Health program which include 8 lectures on sustainability as embedded
109	Chronic Disease	The course is as a part of Public Health program which include 22 Theoretical and Practical Lessons on sustainability as embedded
110	Advanced Environmental Health	The course is as a part of Public Health program which include 17 Theoretical and Practical Lessons on sustainability as embedded
111	Occupational Health and Safety	The course is as a part of Public Health program which include 22 Theoretical and Practical Lessons on sustainability as embedded
112	Maternal and Child Health	The course is as a part of Public Health program which include 19 Theoretical and Practical Lessons on sustainability as embedded
113	Infection control	The course is as a part of Public Health program which include 21 Theoretical and Practical Lessons on sustainability as embedded
114	Mental Health and Psychology	The course is as a part of Public Health program which include 15 lectures on sustainability as embedded
115	Contemporary Public Health Issues and Challenges	The course is as a part of Public Health program which include 11 lectures on sustainability as embedded
116	Essentials of Environmental Health	The course is as a part of Public Health program which include 26 Theoretical and Practical Lessons on sustainability as embedded
117	Health Education & Promotion	The course is as a part of Public Health program which include 9 lectures on sustainability as embedded
118	Food Safety and Hygiene	The course is as a part of Public Health program which include 20 Theoretical and Practical Lessons on sustainability as embedded
119	Communicable Disease	The course is as a part of Public Health program which include 19 Theoretical and Practical Lessons on sustainability as embedded
120	School Health	The course is as a part of Public Health program which include 18 Theoretical and Practical Lessons on sustainability as embedded
121	Materials Applications (INDSG 242)	Students will be able to recognize the impact of interior materials on people's health and well-being, and global sustainability through studying sustainable materials, Smart materials Covering the role and responsibilities of interior designers in improving the quality of natural and built environments
122	Textile and Printing (INDSG 441R)	Recognize the environmental and ecological ramifications of the range of interior textiles. Show ethical responsibility when selecting textiles in relation to sources and environmental impact.
123	Environmental Control Systems 1 (INDSG 431R)	The course discusses the sustainable solutions of environmental control systems used in buildings for providing comfort and energy efficiency and sustainability in traditional and contemporary buildings. with various examples: Green buildings, concepts and applications. Contemporary Sustainable design
124	Interior Design Studio 9 (INDSG-501R)	Students will develop an understanding of theories, strategies, and application of passive design strategies that impact interior environmental efficiency and achieve an eco-friendly design.



		the course will also deal with the possible ways of integrating daylighting, natural ventilation and renewable energy.
125	Industrial Design Studio 5 (PRDSG 301)	This course builds on the design theory and practice covered in Industrial Design Studio 4: the underlying theme is designing for context. Students will respond to more open ended and complex, user centered design issues as set out in a Product Design brief that applies to a variety of design contexts. Special attention is given to the design of a product and its relationship to the space in which it operates. Context can also relate to interior design, and ideal products for this studio include small home accessories, such as candleholders, bowls, lamps and lighting design (which include simple electric fixtures). The project can include design of package, and assembly instructions (see examples of IKEA flat packed lamps in the market). Students engage in a design process that comprises a relative increase in the number of design variables, parameters and constraints in order to propose a creative design solution.
126	Eco Design and Sustainability (PRDSG 308)	This course will introduce students to eco design and design for sustainability theory, methods and examples, providing the knowledge and analysis tools for students to apply to their design projects to make them more environmentally friendly, socially conscious and economically viable. An integrated and holistic approach to sustainability is explored through the study of diverse interrelated topics that look into the social, economic and environmental implications of Industrial Design. At the same time, a practical project is developed to use and reaffirm the learned concepts. These tools vary from a social point of view based on human needs analysis, to the evaluation of economic feasibility of a project and the understanding of environmental considerations of design through the use of diverse eco design tools. The course will require students to research and present relevant topics, as well as application to a specific design project.
127	Materials and Manufacturing Processes 1 (PRDSG 303)	This course explores the properties, use and selection of appropriate materials in the design and manufacture of products, using guidelines that include sustainability and environmental responsibility. On successful completion of this course students will be able to: identify and describe primary processes and materials relevant to Industrial Design; communicate relevant manufacturing design proposals; and understand and apply these to manufacturing design problems.
128	Theory of Design II (INDSG 342R)	Studying Sustainability in both: tradition bound and Contemporary Developments.
129	Interior Design Studio 5 (INDSG 301)	Interior Design Studio V is primarily concerned with innovative renovation of a real-life project that focuses on design investigations of a physical context in addition to universal design principles. Students will be involved in design exercises of retail spaces of increasing scale and complexity articulated by the interaction of individual and the potential of the place. Emphasis is placed on space planning after fully considering the type and size of merchandize, as well as the needs, activities and aspirations of the users. Upon completion of the course students will be able to conceive indoor settings and related interior design elements according to



		<p>certain perceptual paths that summarize the diversity of readings that users are likely to recognize from different viewpoint.</p> <p>Exercise of sustainability in the projects is introduced in terms of context, and materials of construction, finish and furniture</p>
130	Handcrafts with Local Materials (DSGN 546)	<p>Create sustainable and green furniture by reusing available old furniture and scrap materials.</p> <p>Recognize ecofriendly materials used in furniture recycling.</p>
131	Landscape Design (INDSG 422R)	<p>Landscape Design course deals with integrating the indoor and outdoor built environments through appropriate landscape design strategies in a way that fulfils the functional and aesthetic needs of the users. The course gives information about the types, properties, functional and aesthetic criteria of using natural and man-made materials (such as land, CONTEMPORARY s, water, pavements, buildings and street furniture),also known as hard and soft elements of landscape design, appropriately and effectively for human use.</p> <p>A detailed knowledge of the above leads students to understand the application of elements of landscape design through a practical project using design and computer skills in designing a landscape project thereby integrating theory and practice.</p>
132	Industrial Design Studio 6 (PRDSG 307)	<p>This course refines student understanding of the design process as the central creative activity in problem solving within Industrial Design practice. It builds on previously acquired design knowledge and skills to achieve an advanced level of competence in the design of selected consumer products under the theme of designing for context in a selected consumer environment. Emphasis is placed on understanding and responding to multiple criteria, including eco design parameters and suitable choice of materials and manufacturing processes, when providing design solutions.</p>
133	Contemporary Design Issues (DSGN 548)	<p>This course is primarily concerned with the development of the students' capacity for research and analysis of contemporary design issues. There will be a short series of lectures defining some of the scientific, environmental, cultural and social developments of recent times. Students, in tutorial and in self study, are then expected to explore other possible issues and to select one or more to address, articulating its importance and evaluating the value of design as an intervention strategy. Students will develop an ability to articulate personal positions and to support them by research and reference.</p> <p>The emphasis in the course is the role of the design profession and the capacity for it to initiate or support change. The major cultural, socio economic, political and religious issues are essential background for the studies but it is design issues that are pivotal.</p>
134	Materials and Manufacturing Processes 2 (PRDSG 309)	<p>This course explores a range of materials used in manufacture (such as wood, glass, ceramics) with considerable attention given to new, emerging and advanced materials and manufacturing technologies (such as high performance composite materials). The research project runs in parallel with the lectures and tutorials, and provides the anchor and central thread for the lecture material. Tutorial time may be devoted to expansion of the lecture material or to development of the research process at the discretion of the course convener.</p>



135	Industrial Waste Management (ENVH 212)	The course identifies the different types of industrial wastes in details. It explores the origins of the waste-production processes wise and their impacts upon the human and environmental health. It studies methods of computing the amounts of industrial wastes. It also studies the different stages of industries wastes starting from emission from their sources to the final disposal and defines the industrial survey, material balance and techniques for minimizing the wastes. In addition, it deals with waste reduction and recycling procedures, methods of storage, transportation and disposal, integrated waste management, identification of present problems and future needs. The course is supported by lab studies and field visits.
136	Wastewater Management (ENVH 302)	The course will cover, in deep, the processes of wastewater treatment: physical, mechanical, chemical and biological as well as the most recent combinations of technologies commonly applied in practical life. Additionally, the integrated models for wastewater treatment will be also demonstrated. Moreover, the various agents and their action mechanisms which used in the disinfection process will be taught. Also, the course will cover applications of reclaimed water as well as the managements of general wastes (emissions, effluents and solid wastes) generated from treatment plants. Additionally, monitoring and inspecting the performance of wastewater treatment plants and how far they are adapted to the environmental local and international legislations will be demonstrated. Moreover, A special focus will be on the identification and explanation the terms of “disinfection processes” and “wastewater reclamation and reuse”.
137	Solid Waste Management (ENVH 303)	Solid waste management course will cover all aspects of municipal, hospitals and other hazardous solid waste (MSW) management including refuse generation, source reduction, collection, transportation, recycling and resource recovery, burial in landfills, and treatment by composting, anaerobic digestion and combustion. Regulations and policy relevant to MSW will also be discussed and students are expected to integrate regulatory. The application of life-cycle analysis to waste management systems will also be considered. Students also will be expected to manage solid wastes material and use this information in the development of technically viable alternatives for compliance with regulations.
138	Environmental Management System (ENVH 308)	The course identifies the management of an organization’s environmental programs in a comprehensive, systematic, planned and documented manner. It includes the organizational structure, planning and resources for developing, implementing and maintaining policy for environmental protection. More formally, EMS is “a system and database which integrates procedures and processes for training of personal, monitoring, summarizing, and reporting of specialized environmental performance information to internal and external stakeholders of a firm.
139	Environmental Biotechnology (ENVH 402)	Environmental Biotechnology is a core course in environmental health curriculum that is intended to foster a knowledge base and understanding the modern application of biological agents (especially microbes) in environmental development, monitoring, pollution prevention and control. It describes the major



		biotechnology techniques used in treatment of industrial and domestic wastewater (different aerobic and anaerobic technologies applied in waste treatment). Also, describes the role of microbes in monitoring and use of genetic engineering in bioremediation. It explains how to use biotechnological methods for pollution detection and control. Emphasis will be given to the use of GMOs in agriculture and food technology and their impact on human life and environment. Production of eco-friendly products for protection of human health will be discussed. On practical session, student will operate modern molecular techniques for phylogeny and tracking of microbial cells or community. And practice techniques required for monitoring of microbial growth as well as effect of toxic chemicals e.g. heavy metals on growth.
140	Air Pollution Monitoring and Management (ENVH 403)	The course explores the governmental regulations, emission standards, air-quality standards, processes and equipment for controlling emissions. It explains the basic guidelines for air quality control measures for mobile and stationary sources of air pollution including effective actions, strategic plans, replacing sources with environmental friendly materials and using of control equipment and tools. In addition, the course provides a good idea for indoor air quality including sources of pollution, most affecting factors and best control measures. The course is supported by lab and field studies to perform its theoretical parts.
141	Soil Pollution and Remediation (ENVH 353)	The course delivers a comprehensive introduction of soil pollution and remediation. It describes principles of contaminant movement in soil, soil properties and their impact on solubility and toxicity of pollutants. During the course students will learn about the impact of the anthropogenic activities on soil degradation, and its consequences on the public health. Different ways of soil preservation and related remediation technologies such as soil washing, stabilization and phytoremediation will be discussed in details through a series of lectures and case studies and finally, laboratory sessions will allow students to acquire skills in characterization soils properties related to environmental pollution and abatement.
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146	Renewable Energy (Program: Science and Humanities)	This course covers the physics and working principles of renewable energy sources such as wind, water, biomass, solar, and geothermal energy. Then, solar energy conversion systems such as thermal solar collectors, photovoltaic panels, and solar concentrators are modeled for design and performance analysis of solar power system or plant without storage units. This course also covers wind power related topics such as its history, current and future status and applications, wind turbine modeling including wind resource assessment, aerodynamics, wind turbine power and energy production. The students will also learn the theory, thermodynamics performance, design and economics of geothermal power plants for electricity generation, and its different applications.
147	Energy and Environmental Problems (Program: Science and Humanities)	This course examines some environmental management aspects of atmospheric resources, energy, transportation, manufacturing and food production. The fundamentals of driving forces that influence different human activities and policies will be analyzed and discussed. During the first half of the course, lectures and reading material will provide students with a detailed introduction to the



		<p>impact's energy production on environment and the relationship between energy production, consumption and climate change.</p> <p>During the second half of the course, students will be exposed to new transportation technologies, main causes of air pollution, impacts of international commerce, sustainable manufacturing and industrial ecology basics, green buildings, energy management and sustainable food production.</p> <p>Also, this course provides an overview of the world's environmental problems from a political perspective. Focuses on the political dynamics that shape environmental policy making.</p>
148	Energy Policy and Analysis (Program: Science and Humanities)	<p>Built upon Energy Problems and the Environment course, this course focuses on the construction of national energy policies. Factors that affect the formulation of a national energy policy are treated, including pattern of sectorial consumption of energy, energy intensiveness of economy, pollution problems of energy and the role of the non-conventional sources such as wind, solar and geothermal energy. Case studies of energy policies of selected Asian countries are covered, together with substantial research on an energy topic.</p>
149	Solar cells (Program: Science and Humanities)	<p>This course interests to the design and applications of solar energy systems and photovoltaics (PV) in particular. The course begins by providing profound insight into the physics, technology and design of solar cells. It completes the study by explaining the energy conversion, photovoltaic and photothermal engineering, optical systems, and solar energy storage and distribution systems. In addition, basic manufacturing processes for the production of solar panels, environmental impacts, and the related system engineering aspects will be included to provide a comprehensive state-of-the art approach to solar energy utilization.</p>
150	Energy Storage (Program: Science and Humanities)	<p>This course explores the current practice and emerging technologies in energy storage, distribution and efficient energy usage. Topics on novel technologies such as potential, kinetic, thermal energy storage, high power density rechargeable batteries, and non-hydrogen-based fuel cells will be discussed.</p> <p>Integration of the energy storage media and its effects on the bulk power system, design tradeoffs to understand environmental impacts, cost, reliabilities, and efficiencies for commercialization of bulk energy storage. Storage media coverage will include electrochemical devices such as batteries, fuel cells, ultra-capacitors, super conducting magnetic energy storage, and mechanical energy storage devices involving pumped hydro, compressed gas, flywheel, and thermal storage systems.</p>
151	Green Energy Laboratory (Program: Science and Humanities)	<p>By way of lectures and a series of experiments related to principles and application of energy science, this practical course introduces the students to the basic concepts and methodologies behind Green Energy.</p>
152	Wind Energy (Program: Science and Humanities)	<p>In this course, the student will be able to possess the knowledge and skills necessary to identify, understand, advise upon and contribute to the solution of problems in wind engineering from energy potential assessment to system planning, installation and operation. They will also possess a flexible and forward-looking approach enabling them to participate in future scientific and technological developments.</p>



153	Nuclear Energy (Program: Science and Humanities)	In this course, the students will learn about the fundamentals of nuclear power. The students will learn the concepts of nuclear physics and radioactivity. The students will be introduced to nuclear reactions and reactor mechanics. The students will learn the reactor theory of nuclear chain reactors, reactor kinetics, classification of nuclear reactors, nuclear power production, and nuclear economics. The students will also be introduced to the safety procedures of a nuclear power plant, applications for peaceful purposes and storage of nuclear waste.
154	Advanced Green Energy Laboratory (Program: Science and Humanities)	This laboratory course uses LabVIEW based software to perform experiments. The teaching mode includes lectures, lab exercises, and project-based experiments related to (1) renewable energy system analysis, (2) energy conversion efficiency, (3) energy conservation, (4) characterizations of energy harvesting materials and solar cells.
155	Project-Phase 1 (Program: Science and Humanities)	The final year project is a semester or general project divided into two semesters. The course aim to give students experience in solving real physical and engineering problems and the opportunity to apply the knowledge they have gained during their undergraduate program. It is one of the key elements in the program to train students to explore energy science in a research setting. The course emphasizes the identification and development of practical and technical ideas and concepts which are to be researched, analyzed, programmed, and documented in an effective and efficient professional report. The research should include pertinent analysis and solutions and issues in an integrated form. Upon completion, the student will gain valuable hands-on experience in problem solving.
156	Project-Phase 2 (Program Science and Humanities)	This part of the project involves the second stage of the research project component of the course. Working with a research supervisor, the student will finalize data collection, analyze it and interpret the outcome of the study. Student`s work will be evaluated in two formats: project report and project presentation. The report should be evaluated based on the standard APA format, content, and accurate technical information. Literature review and references cited is critical. Computations and simulations are evaluated for accuracy and consistency. The project will be presented, in a PowerPoint format, to an audience comprised of faculty, students, and staff. Each presentation was evaluated, based on content and format, and was used to compute the final grade for each student.
157	General English 101 (Prep Year)	Skills for Success, Book (2) Unit (7) Environmental Studies: discusses issues of environmental studies. It raises rhetorically the concern of how to keep our environment clean. Hence, it handles the process of recycling; how to benefit from the trash, and the danger of throwing trash away. The unit contains excerpts of the experience of anthropologists who study the lives of sanitation workers as the most important uniformed force on the street.
158	English For Specific Purposes (102) Writing Essentials: English for Academic Purposes (Prep Year)	Unit (1) in English for Academic Writing has covered the topic of Renewable Energy (RE). It comes to focus on different clean resources of energy namely: solar, wind, hydropower, and biomass, geothermal and tidal energy. The main goal, here, is to inform the students of the importance of shifting from fossil fuels energy to



		renewable resource of energy. One reason for is the RE is more friendly to environment. The second reason is that RE provides abundant and constant sources of energy.
159	Interpretation of the Quranic Verses of Verdicts 1 (QURN-102)	<p>The Holy Qur'an and Environmental sustainability</p> <p>The Holy Qur'an has several specific references to ecology and contains some important principles for environmental conservation. The first principle which guides Islamic Sharia teaching on environmental sustainability is the concept of trusteeship. Being a Khalifa (or guardian), a man should take all necessary steps to ensure that the entrusted property is passed on to the next generation in as pure a form as possible. According to Islam each man is the custodian of nature and must live with harmony with other creatures. It is the duty of all Muslims to respect, nurture and care for the environment. Corruption of all kinds, including environmental corruption, which includes industrial pollution, environmental damage, and reckless exploitation and mismanagement of natural resources are disliked by Allah (Subhanahu Wa Ta'ala).</p> <p>According to the Holy Qur'an, environmental conservation is a religious duty as well as social obligation, and not an optional matter. The exploitation of a natural resource is directly related to accountability and maintenance of the resource.</p>
160	Interpretation of the Quranic Verses of Verdicts (QURN 113);	<p>The Holy Qur'an and Environmental sustainability</p> <p>The Holy Qur'an has several specific references to ecology and contains some important principles for environmental conservation. The first principle which guides Islamic Sharia teaching on environmental sustainability is the concept of trusteeship. Being a Khalifa (or guardian), a man should take all necessary steps to ensure that the entrusted property is passed on to the next generation in as pure a form as possible. According to Islam each man is the custodian of nature and must live with harmony with other creatures. It is the duty of all Muslims to respect, nurture and care for the environment. Corruption of all kinds, including environmental corruption, which includes industrial pollution, environmental damage, and reckless exploitation and mismanagement of natural resources are disliked by Allah (Subhanahu Wa Ta'ala).</p> <p>According to the Holy Qur'an, environmental conservation is a religious duty as well as social obligation, and not an optional matter. The exploitation of a natural resource is directly related to accountability and maintenance of the resource.</p>
161	Interpretation of the Quranic Verses of verdicts 3 (QURN 210);	<p>The Holy Qur'an and Environmental sustainability</p> <p>The Holy Qur'an has several specific references to ecology and contains some important principles for environmental conservation. The first principle which guides Islamic Sharia teaching on environmental sustainability is the concept of trusteeship. Being a Khalifa (or guardian), a man should take all necessary steps to ensure that the entrusted property is passed on to the next generation in as pure a form as possible. According to Islam each man is the custodian of nature and must live with harmony with other creatures. It is the duty of all Muslims to respect, nurture and care for the environment. Corruption of all kinds, including environmental corruption, which includes industrial</p>



		<p>pollution, environmental damage, and reckless exploitation and mismanagement of natural resources are disliked by Allah (Subhanahu Wa Ta'ala).</p> <p>According to the Holy Qur'an, environmental conservation is a religious duty as well as social obligation, and not an optional matter. The exploitation of a natural resource is directly related to accountability and maintenance of the resource.</p>
162	Interpretation of the Quranic Verses of verdicts 4 (QURN 411)	<p>The Holy Qur'an and Environmental sustainability</p> <p>The Holy Qur'an has several specific references to ecology and contains some important principles for environmental conservation. The first principle which guides Islamic Sharia teaching on environmental sustainability is the concept of trusteeship. Being a Khalifa (or guardian), a man should take all necessary steps to ensure that the entrusted property is passed on to the next generation in as pure a form as possible. According to Islam each man is the custodian of nature and must live with harmony with other creatures. It is the duty of all Muslims to respect, nurture and care for the environment. Corruption of all kinds, including environmental corruption, which includes industrial pollution, environmental damage, and reckless exploitation and mismanagement of natural resources are disliked by Allah (Subhanahu Wa Ta'ala).</p> <p>According to the Holy Qur'an, environmental conservation is a religious duty as well as social obligation, and not an optional matter. The exploitation of a natural resource is directly related to accountability and maintenance of the resource.</p>
163	Quranic Sciences	<p><u>Sustainability Milestones in Islam</u></p> <p>-Islamic worldview represents a unique model for a transition to sustainable development by focusing on justice, rational growth and harmony between human and nature.</p> <p>-Islamic Sharia thinkers view the environmental challenges as an indicator for a moral and ethical crisis. Looking at the creation of human, Earth, and cosmos as signs of the Creator (<i>Kitab Manthoor</i>) is a key in Islamic values.</p>
164	Introduction to Islamic Jurisprudence 1	<p><u>Sustainability Milestones in Islam</u></p> <p>-Islamic worldview represents a unique model for a transition to sustainable development by focusing on justice, rational growth and harmony between human and nature.</p> <p>-Islamic Sharia thinkers view the environmental challenges as an indicator for a moral and ethical crisis. Looking at the creation of human, Earth, and cosmos as signs of the Creator (<i>Kitab Manthoor</i>) is a key in Islamic values.</p>
165	Jurisprudence of Purity	<p>Islamic worldview defines a good life (<i>Hayat Tayebah</i>) living lightly on Earth (<i>Zohd</i>) and caring for both people and nature.</p> <p>-Islamic discourse offers a sense of hope and optimism about the possibility of attaining harmony between human and nature. Earth will find a balance if humans rethink their lifestyles and mindsets as stated in the <i>Quran</i>:</p> <p><i>"Corruption has appeared in both land and sea Because of what people's own hands have brought So that they may taste something of what they have done So that hopefully they will turn back " Qur'an 30: 41</i></p>



166	Sharia verdict and commissioning	-the holistic view of Islam is founded on the notion of harmony and “natural state” (<i>fitra</i>) and in respecting balance (<i>mizan</i>) and proportion (<i>mikdar</i>) in the systems of the universe. These notions provide an ethical dimension and a mandate for all humans to respect nature and all forms of life.
167	Jurisprudence of financial Transactions 1	-God said in the Holy Book, Quran, “Every living thing is in a state of worship”. when one hurts a bird or a plant, he/she is silencing a community of worshippers. To celebrate the symphony of life, all humans need to celebrate and protect biological and cultural diversity. -Islamic worldview calls to make a transition to a sustainable society and economy by adopting responsible development and respecting sustainability principles. This change requires a shift in norms and practices. Religion can become a powerful part of the solution if humans embody a holistic spiritual view towards mankind, earth and cosmos. -Islamic sharia thinkers aspire to see a new Islamic discourse that emphasizes and links faith, reason and empathy to ensure an ecological insight (<i>Baseera</i>). They try to rethink educational systems that neglected the beauty and majesty of nature and the cosmos. -Islamic sharia thinkers warn that “The extinction of species around us which are simply communities like us (<i>Ummam Amthalokom</i>) may extend to humankind unless we change our worldviews and development models”. they call to revive the concept of Green Endowment Fund (<i>Waqf</i>) to support a transition to sustainable economy by promoting innovation (<i>ijtihad</i>) inspired by nature and culture.
168	Jurisprudence of financial Transactions 2	-Islamic sharia thinkers are inspired by prophet Mohammed saying, “If it is the Last day of life and you have a small plant, make sure you plant it”.
169	Jurisprudence of Family 1	-from an Islamic perspective, overcoming environmental crisis and mitigating the impact of climate change, is underpinned by defining the role of humans as trustees and stewards (<i>khalifah</i>). This balance has been disturbed because to human choices which result in overconsumption, overexploitation and overuse of resources.
170	law of inheritance 2	-from an Islamic perspective, overcoming environmental crisis and mitigating the impact of climate change, is underpinned by defining the role of humans as trustees and stewards (<i>khalifah</i>). This balance has been disturbed because to human choices which result in overconsumption, overexploitation and overuse of resources.
171	Introduction to Islamic Jurisprudence 2	<u>Sustainability Milestones in Islam</u> -Islamic worldview represents a unique model for a transition to sustainable development by focusing on justice, rational growth and harmony between human and nature. -Islamic Sharia thinkers view the environmental challenges as an indicator for a moral and ethical crisis. Looking at the creation of human, Earth, and cosmos as signs of the Creator (<i>Kitab Manthoor</i>) is a key in Islamic values.
172	Hadiths of verdicts 3	<u>Environmental Sustainability in Islamic Sharia</u> Islamic sharia (beliefs, traditions and values) provide an effective and comprehensive solution to the current environmental challenges faced by human race. Islam has a rich tradition of highlighting the importance of environmental protection and



		<p>conservation of natural resources. According to Islamic sharia, the basic elements of nature – land, water, fire, forest, and light – belong to all living things, not just human beings.</p> <p>The Holy Qur’an and Sunnah are a guiding light to promote sustainable development in Islamic countries as well as around the world. Allah (Subhanahu Wa Ta’ala) commands human beings to avoid doing mischief and wasting resources as these acts cause degradation of the environment. The privilege to exploit natural resources was given to the mankind on a guardianship basis, which implies the right to use another person’s property on the promise that it will not be damaged or destroyed.</p>
173	Jurisprudence of oaths & Foods	<p>-Islamic Sharia thinkers values call to save integrity and to protect the diversity of all forms of life. the ecological crisis is linked to human ethics and values. Human actions are responsible for the global ecological crisis. “Reflecting on the main environmental problems, such as the destruction of natural habitats, loss of biodiversity, climate change, and erosion of soil, they see that all are triggered by human greed and ignorance. Human responsibility is to save and protect livelihood and ecosystem services to ensure a sustainable civilization learning from and reflecting on the fate of past civilizations.</p>
174	Legal Maxims of Islamic Jurisprudence 1	<p>Prophet Muhammed (Sallallahu Alaihi Wasallam) established a hima to the south of Madina and forbade hunting within a four-mile radius and destruction of trees or plants within a twelve-mile radius. The creation of inviolable zones shows the importance placed by Prophet Muhammad (Sallallahu Alaihi Wasallam) on sustainable use of natural resources and protection of wildlife and agricultural land.</p>
175	Judicial Systems	<p><u>Environmental Sustainability in Islamic Sharia</u></p> <p>The first principle which guides Islamic Sharia teaching on environmental sustainability is the concept of trusteeship. Being a Khalifa (or guardian), a man should take all necessary steps to ensure that the entrusted property is passed on to the next generation in as pure a form as possible. According to Islam each man is the custodian of nature and must live with harmony with other creatures. It is the duty of all Muslims to respect, nurture and care for the environment.</p>
176	Sharia Intentions	<p><u>Environmental Sustainability in Islamic Sharia</u></p> <p>Islamic sharia (beliefs, traditions and values) provide an effective and comprehensive solution to the current environmental challenges faced by human race. Islam has a rich tradition of highlighting the importance of environmental protection and conservation of natural resources. According to Islamic sharia, the basic elements of nature – land, water, fire, forest, and light – belong to all living things, not just human beings.</p> <p>The Holy Qur’an and Sunnah are a guiding light to promote sustainable development in Islamic countries as well as around the world. Allah (Subhanahu Wa Ta’ala) commands human beings to avoid doing mischief and wasting resources as these acts cause degradation of the environment. The privilege to exploit natural resources was given to the mankind on a guardianship basis, which implies the right to use another person’s property on the promise that it will not be damaged or destroyed.</p>



177	Dispute and Debate in Islamic Jurisprudence	<p><u>Environmental Sustainability in Islamic Sharia</u></p> <p>Islamic sharia (beliefs, traditions and values) provide an effective and comprehensive solution to the current environmental challenges faced by human race. Islam has a rich tradition of highlighting the importance of environmental protection and conservation of natural resources. According to Islamic sharia, the basic elements of nature – land, water, fire, forest, and light – belong to all living things, not just human beings. The Holy Qur’an and Sunnah are a guiding light to promote sustainable development in Islamic countries as well as around the world. Allah (Subhanahu Wa Ta’ala) commands human beings to avoid doing mischief and wasting resources as these acts cause degradation of the environment. The privilege to exploit natural resources was given to the mankind on a guardianship basis, which implies the right to use another person’s property on the promise that it will not be damaged or destroyed.</p>
178	Jurisprudence of Zakat & Fasting	<p><u>Environmental Sustainability in Islamic Sharia</u></p> <p>The first principle which guides Islamic Sharia teaching on environmental sustainability is the concept of trusteeship. Being a Khalifa (or guardian), a man should take all necessary steps to ensure that the entrusted property is passed on to the next generation in as pure a form as possible. According to Islam each man is the custodian of nature and must live with harmony with other creatures. It is the duty of all Muslims to respect, nurture and care for the environment.</p>
179	Agreed legal evidence	<p><u>Environmental Sustainability in Islamic Sharia</u></p> <p>The first principle which guides Islamic Sharia teaching on environmental sustainability is the concept of trusteeship. Being a Khalifa (or guardian), a man should take all necessary steps to ensure that the entrusted property is passed on to the next generation in as pure a form as possible. According to Islam each man is the custodian of nature and must live with harmony with other creatures. It is the duty of all Muslims to respect, nurture and care for the environment.</p>
180	Sciences of Hadith	<p><u>Hadiths and Environmental sustainability</u></p> <p>Hadiths or the traditions of Prophet Muhammad (Sallallahu Alaihi Wasallam) also deal extensively with various aspects of environment including resource conservation, land reclamation and environmental hygiene. Prophet Muhammad (Sallallahu Alaihi Wasallam) discouraged overconsumption, luxury and lavishness and encouraged moderation in all walks of life. The most popular Hadith on environment states “The earth is green and beautiful, and Allah has appointed you his stewards over it” which reiterates Quran teaching that human beings have been given the responsibility of guardianship over the natural environment.</p>
181	Hadith of Verdicts 1	<p><u>Hadiths and Environmental sustainability</u></p> <p>The Prophet (Sallallahu Alaihi Wasallam) clearly forbade destruction of trees and crops even during war times as long as their existence remains advantageous to the enemy. The Prophet (Sallallahu Alaihi Wasallam) gave high degree of importance towards sustainable cultivation of land, waste minimization, humane treatment of animals, preservation of natural resources and protection of wildlife. Some of the sayings of Prophet bless and</p>



		<p>Muhammad (Sallallahu Alaihi Wasallam) on environmental sustainability are:</p> <ol style="list-style-type: none"> 1- <i>“The world is beautiful and verdant, and verily God, be He exalted, has made you His stewards in it, and He sees how you acquit yourselves.” (Muslim)</i> 2- <i>“If a Muslim plant a tree or sows seeds, and then a bird, or a person or an animal eats from it, it is regarded as a charitable gift (sadaqah) for him.” (Bukhari)</i> 3- <i>“Whoever plants a tree and diligently looks after it until it matures and bears fruit is rewarded,” (Musnad)</i>
182	Hadiths of Verdicts 2	<p><u>Hadiths and Environmental sustainability</u> The Prophet (Sallallahu Alaihi Wasallam) recognized that natural resources should not be overexploited or abused. In order to protect land, forests and wildlife, the Prophet created inviolable zones, known as Haram and <u>Hima</u>, in which resources were to be left untouched. Haram areas were drawn up around wells and water sources to protect the groundwater from over pumping. Hima applied to wildlife and forestry and designated an area of land where grazing and woodcutting was restricted, or where certain animal species (such as camels) were protected.</p>
183	Pillars of Faith	<p><u>Environmental Conservation in Islamic Sharia Teachings</u> Islam has a rich tradition of highlighting the importance of environmental conservation. According to basic Islamic teachings, the basic elements of nature – land, water, fire, forest, and light – belong to all living things, not just human beings. Islam integrates the concept of environmental conservation into the philosophy of life for every believer. By doing so, people can lessen their actions that damage the environment to guarantee the right for future generations to benefit from natural resources.</p>
184	law of inheritance 1	<p><u>The Principle of Guardianship in Islamic Sharia</u> The first principle which guides Islamic Sharia teaching on environmental sustainability is the concept of trusteeship. Being a <i>khalifa</i> (or guardian), a human being should take all necessary steps to ensure that the entrusted property is passed on to the next generation in as pure a form as possible. According to Islamic thought, nature is a divine trust and men are the trustees.</p>
185	Foundations of Law & Interpretation	<p><u>Obligation of Environmental Conservation in Islamic sharia</u> God has granted human beings with abundant natural resources which necessarily involves an obligation on our part to conserve these resources both quantitatively and qualitatively. It follows that human being have no right to cause the degradation of the environment and distort its intrinsic suitability for human life and settlement.</p>
186	Economics	<p><u>Obligation of Environmental Conservation in Islamic sharia</u> <i>“God it is who appointed you stewards upon the earth and raised some of you by degrees above others, that He may try you in that which He has given you.” Qur’an 6:165</i> The above verse reveal that human beings have been given the responsibility of stewardship and granted with God’s trust in order to care for and serve as a channel for his blessings to all creation. Humans are invested with special status and responsibility as trustees on earth and must fulfill the requirements of that trust.</p>



187	Jurisprudence of crimes and penalties	<p><u>Obligation of Environmental Conservation in Islamic sharia</u> In the Qur'an, God identifies nature as a tapestry of signs for man to reflect upon his existence. God bestowed mankind with vice-regency on Earth, entrusting humanity with the duty to protect and restore balance in the environment and to protect the signs for future generations to live and prosper. Thus, in Islam the utilization of the resources is the right and privilege of all people and all species. Hence, man should take every precaution to ensure the interests and rights of others since they are equal partners on earth. It is the responsibility of every generation to make the best use of nature, according to its needs, without disrupting or adversely affecting the interests of future generations. Therefore, man should not abuse, misuse, or distort natural resources. Each generation is entitled to benefit from them but is not entitled to own them.</p>
188	Jurisprudential Analogy	<p><u>Obligation of Environmental Conservation in Islamic sharia</u> Looking around at the current state of environmental degradation and extent of negative impact due to climate change, one cannot but conclude that contemporary humanity has failed this test. The world can no longer afford the cost of our failures. It is time that people of all faiths unite and stand for a common cause for humanity. The Holy Qur'an offers a clear guidance for our future, applicable not only to the Muslims, but to every one of us, in a simple yet divine revelation penned ages ago: <i>"Walk not exultantly upon the earth." Qur'an 17:63</i></p>
189	Hadiths on Judgments4	<p><u>Hadiths and Environmental sustainability</u> The Prophet (Sallallahu Alaihi Wasallam) recognized that natural resources should not be overexploited or abused. In order to protect land, forests and wildlife, the Prophet created inviolable zones, known as Haram and <u>Hima</u>, in which resources were to be left untouched. Haram areas were drawn up around wells and water sources to protect the groundwater from over pumping. Hima applied to wildlife and forestry and designated an area of land where grazing and woodcutting was restricted, or where certain animal species (such as camels) were protected.</p>



190	Jurisprudence of Judiciary	<p>Prophet Muhammad (Sallallahu Alaihi Wasallam) said:</p> <ol style="list-style-type: none"> 1- <i>“The world is a green and pleasant thing. God has made you stewards of it and looks at how you behave.”</i> 2- <i>“The Earth is green and beautiful, and Allah has appointed you his stewards over it.”</i> 3- <i>“Whoever plants a tree and diligently looks after it until it matures, and bears fruit is rewarded.”</i> 4- <i>“If a Muslim plant a tree or sows a field and humans and beasts and birds eat from it, all of it is love on his part.”</i> <p>In the Holy Qur’an, Muslims are instructed to look after the environment and not to damage or alter creation. <i>“Devote thyself single-mindedly to the Faith, and thus follow the nature designed by Allah, the nature according to which He has fashioned mankind. There is no altering the creation of Allah.” Qur’an 30:30</i></p>
191	Hadiths of verdicts 5	<p><u>Hadiths and Environmental sustainability</u> Prophet Muhammed (Sallallahu Alaihi Wasallam) established a hima to the south of Madina and forbade hunting within a four-mile radius and destruction of trees or plants within a twelve-mile radius. The creation of inviolable zones shows the importance placed by Prophet Muhammad (Sallallahu Alaihi Wasallam) on sustainable use of natural resources and protection of wildlife and agricultural land.</p>
192	Legal Maxims of Islamic Jurisprudence2	<p>Prophet Muhammed (Sallallahu Alaihi Wasallam) established a hima to the south of Madina and forbade hunting within a four-mile radius and destruction of trees or plants within a twelve-mile radius. The creation of inviolable zones shows the importance placed by Prophet Muhammad (Sallallahu Alaihi Wasallam) on sustainable use of natural resources and protection of wildlife and agricultural land.</p>
193	Islamic Legitimate Policies	<p><u>Obligation of Environmental Conservation in Islamic sharia</u> Looking around at the current state of environmental degradation and extent of negative impact due to climate change, one cannot but conclude that contemporary humanity has failed this test. The world can no longer afford the cost of our failures. It is time that people of all faiths unite and stand for a common cause for humanity. The Holy Qur’an offers a clear guidance for our future, applicable not only to the Muslims, but to every one of us, in a simple yet divine revelation penned ages ago: <i>“Walk not exultantly upon the earth.” Qur’an 17:63</i></p>
194	Energy Efficiency for Sustainable Development (ENRG502)	<p>Environmental impact assessment and audits, investment on research and development of new technologies. The adoption of standards for minimum energy efficiency, the disclosure of contents, rating and awards of different technologies.</p>
195	Hybrid Energy Systems (ENRG558)	<p>Review of Renewable Energy Systems including Solar, Photovoltaic, Wind, Solar Electric and Solar Thermal System Fundamentals</p>
196	Atmospheric Pollution (ENRG554)	<p>Health and environmental effects of atmospheric pollution in the developed and developing world.</p>



197	Energy & Environment (ENRG412)	Environmental management aspects of atmospheric resources, energy, transportation and manufacturing in the context of natural resources, human health, and sustainable practices. . Impacts of conventional and renewable energy production and consumption on the natural environment, health, economics and their related management structures.
198	Renewable Energy (ENRG403)	Solar Thermal Design Methods; Wind Characteristics and Resource Assessment; Geothermal Power Systems; Performance, Analysis and Design
199	Energy Storage (ENRG510)	Solar Energy and Thermal Energy Storage; Thermal Energy Storage and Environmental Impact; Thermal Energy Storage and Energy Savings.
200	ENVEN 501	Sustainable engineering design and projects; Principles of sustainability in engineering; Sustainable solutions considerations in environmental design and projects using life cycle assessment, design for environment, GIS, mathematical modeling, design of experiments and use of relevant software/models; Environmental project management plan and impact.
201	HUMN 512	The role of law and regulations in environmental management Concept of sustainable development via environmental law and regulation
202	CHEM 311 - Environmental Chemistry	Green Chemistry for a Sustainable Future
203	ENVEN 471 - Sanitary Engineering	Applying appropriate regulations and guidelines and acceptable engineering design concepts so as to identify, monitor, evaluate, reduce, and control environmental health hazards related to water pollution; Implementing the knowledge-based, practical, and sustainable applications of water pollution and control to identify, formulate, and solve real-world engineering problems
204	ENVEN 544 Marine Pollution and Control	The anthropogenic effects on marine ecosystems from local, regional and global perspectives, types of contaminants, pollutants, eutrophication, oxygen demanding waste, oil pollution and toxicity, polycyclic aromatic hydrocarbons (PAH), halogenated hydrocarbons, trace metals, radioactive waste, dredging and dredged-spoil disposal.
205	ENVEN 421 Air Pollution	Air Pollutants, Sources of Air Pollution, Emission Inventory, Air Pollution Index, Atmospheric Stability, Types of Plumes, Effects of Air Pollutants, Air Quality Regulations
206	Environmental Law and Regulation	Three lectures (total 6 hours) will be given focusing on sustainability. 1-Concept of sustainable development via environmental law and regulation (2 hours) 2-The law and regulation in environmental management (4 hours)
207	ENVEN 442 – Air Pollution Control	Knowledge-based, practical, and sustainable applications of air pollution and control to identify, formulate, and solve real-world engineering problems.
208	ENVEN 563 – Noise Pollution & Control	Noise control techniques and sustainable noise mitigation approaches
209	Strategic Management	Two modules: - Vision, Mission, Objectives - (Environmental Analysis)
210	Business Ethics	Three modules - Corporate Social Responsibilities (CSR) - Code of Conduct - Organizational Culture
211	Human Resource Management	1 module: Managerial Development
212	Marketing communication	1- Public relations and social responsibility 2- Marketing ethics (1 lesson)



213	Strategic marketing	SWOT analysis
214	Product management and brand	Green products and packages
215	Applications of GIS for Human Geography (GEOG 422 N)	All the applications in this section are about sustainability of human geography. About resilient, sustainable and safe infrastructure.
216	Applications of GIS for Physical Geography (GEOG 433 N)	All the applications in this section are about sustainability of physical geography.
217	Development and Planning (GEOG 441)	Theories of development and strategies of planning. Hurricanes and strong air-masses. Floods and severe conditions relating to climate change.
218	Contemporary Topics In Geography (GEOG 429)	Most of modules are about sustainable development and the international indicators of sustainability in economic, social and environmental levels.
219	Climate Geography (GEOG 204)	Climatology is one of most important subjects upon which all the international debates are presented and sustainable development is focus on urgent action of climate change.
220	Graduation Project (GEOG 443)	Some students choose topics that related on sustainable development.
221	Physical Geography of Arid Lands (GEOG 436)	Conservation of land is one of the sustainable development goals mainly about combat desertification in arid and semi-arid zones.
222	Population Geography (GEOG 428)	There are some lesson about development and population>
223	Social Geography (GEOG 430)	Human resources development
224	Theory of Design I	The course covers the theories of architectural design. It is divided into two parts, the first part covers the main theories of design whereas the second part covers the theories of sustainability, its strategies, and applications. Theories of Biomimicry, Biophilic, and traditional sustainability are among the theories covered in the course.
225	Surface Design	The course covers a series of materials throughout the course: animal, plant, mineral, metal, smart materials, plastic, and wood. Each of these modules has a section on sustainability. (The course is an introduction of different materials)
226	Industrial Design Studio 7 (PRDSG 401)	The topic of sustainability was covered in the main project in this course. Project Brief: The project requires designing an electric self-service communication system and device/s (kiosk/s) that support the collection of recyclable waste in public areas whether indoor or outdoor with a focus on one main material among the following (plastic, paper, glass, metals and organic waste).
227	Crafts in Saudi Arabia (PRDSG 404) (Project)	Through a series of lectures and tutorial activities this course will encourage and generate student driven research into craft activities in Saudi Arabia. The history of traditional Saudi crafts is long, rich and highly significant as a precursor to modern Saudi design. Students will explore the history of craft in general but will also be expected to select a particular area of study, to research the background, national and international significance and the present status, and to present their research to the group. Using raw and sustainable materials such as wool, clay, palm leaves, and leather, students are expected to collaborate with external expertise in craftsmanship to create new souvenirs and handheld products.
228	Biomimicry in Engineering and Design (PRDSG 407) (Innovation inspired by nature)	Biomimicry or Bio Inspired Design are terms that encompass different approaches for innovation in engineering and design which are inspired in the study of life and nature at different levels, such as form, function, process and systems. This course will introduce students to biomimicry through the study of diverse tools and examples in engineering and design, providing the knowledge and tools for students to use biomimicry as a source of inspiration and creativity which can be applied to their design projects. The course will require students to research and present relevant topics,



		as well as application to a specific design project, which will be an ongoing project in the second half of the semester.
229	INAR402 Design Studio 8 (Sustainable)	This design studio will concentrate on sustainable development and will examine knowledge based sustainable projects within a local context, specifically the Eastern Province of Saudi Arabia. This course will be comprised of a number of theory classes taught in parallel with exercises and projects that are designed to develop the knowledge and skills related to sustainable interior spaces; spaces that are related to recreation as well as tourism activities. A major emphasis will be placed on energy efficiency and in the development of environmentally friendly indoor spaces. The use of locally sourced materials and the creation of low-cost habitats are other equally important criteria. Once the students have developed an understanding of sustainability and affordability, a project will be assigned that will challenge them. Through this project the students will gain experience through the teaching method of <i>problem-based</i> learning and learn how to solve strategic problems by using a systematic process and approach. The course will also concentrate on the eco or sustainable interior design movement and the students are encouraged to incorporate recycled materials in their studio projects. Since creating and assessing potential tourist venues in the Eastern Province is a main part of this course, site visits and field trips will be an essential part of the course requirements.
230	INAR432 Sustainable Designs	This course explores the latest issues in sustainability with regard to Interior Architecture. It covers the tools and techniques used in developing sustainable design solutions. The definition of sustainability in design and the benefits of its various applications in interior architecture and related areas will be discussed. Sustainable themes, materials and technologies will be some of the major issues that will be covered. The course consists of lectures covering the theoretical aspects of sustainability and sustainable designs as well as visits to different sites so that the students get a variety of experiences in the area of sustainable design solutions. Reports, research projects and exams will be the major tools for evaluating the student's level of understanding. This course will present the latest theories and practices in the ever-changing area of sustainable design solutions.
231	INAR442 Interior Architectural Heritage of Saudi Arabia	Sustainability of Local Traditional Building The purpose of this course is to introduce the student to the Interior Architecture Heritage of Saudi Arabia by exploring the traditional home environment, culture and social aspects. The interior architecture will be analyzed and understood comprehensively by preparing a series of power point presentations, watching videos, attending lectures, going on field trips and conducting projects. Through these activities students will explore local heritage, function, meaning and ornamentation of physical forms. The course



		will allow the students to learn important elements related to the function, material, construction methods, furniture and interior personal belongings. Consideration will be placed on different human factors, the main interior elements of a traditional Saudi home and conservation policies in the Kingdom. The student will learn how to identify major concepts of a home environment such as: customs, behavioral patterns and interior personal belongings that represent and reflect the cultural as well as Islamic values.
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Additional evidence link:

- <https://www.iau.edu.sa/en/colleges/college-of-medicine/programs/>
- <https://www.iau.edu.sa/en/colleges/college-of-dentistry/programs/>
- <https://www.iau.edu.sa/en/colleges/college-of-nursing/programs/>
- https://www.iau.edu.sa/en/colleges/college-of-applied-medical-sciences/programs
- https://www.iau.edu.sa/en/colleges/college-of-clinical-pharmacy/programs
- https://www.iau.edu.sa/en/colleges/college-of-public-health/programs
- https://www.iau.edu.sa/en/colleges/college-of-architecture-and-planning/programs
- https://www.iau.edu.sa/en/colleges/college-of-design/programs
- https://www.iau.edu.sa/en/colleges/college-of-engineering/programs
- https://www.iau.edu.sa/en/colleges/college-of-applied-studies-and-community-service/programs
- https://www.iau.edu.sa/en/colleges/college-of-business-administration/programs
- https://www.iau.edu.sa/en/colleges/college-of-computer-science-and-information-technology/programs
- https://www.iau.edu.sa/en/colleges/college-of-science/programs
- https://www.iau.edu.sa/en/colleges/community-college-dammam/programs
- https://www.iau.edu.sa/en/colleges/college-of-arts/programs
- https://www.iau.edu.sa/en/colleges/college-of-education/programs
- https://www.iau.edu.sa/en/colleges/college-of-education-jubail/programs
- https://www.iau.edu.sa/en/colleges/college-of-sharia-and-law/programs
- https://www.iau.edu.sa/en/colleges/college-of-arts/departments/geography-department