



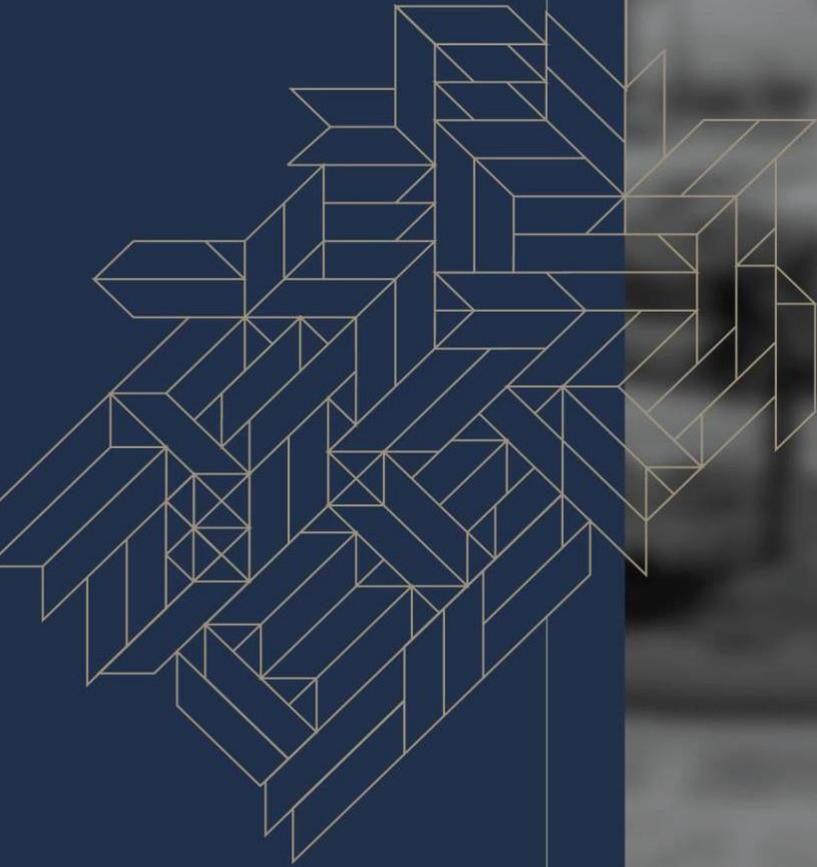
جامعة الإمام عبد الرحمن بن فيصل

IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY

عمادة خدمة المجتمع والتنمية المستدامة

Deanship of Community Service and Sustainable Development

# Sustainable Development Report 2022-2023



## Table of Contents

1. Involving the Community.....	3
2. Greenhouse Gas Emission Reduction Program .....	8
3. Collaboration with NGOs for Various SDGs .....	14
4. Events Related to Sustainability .....	18
5. Cultural Activities for the Community .....	26
6. Sustainability Courses .....	35
7. Published Research on Sustainability by IAU .....	98
8. Students' Organizations related to Sustainability .....	100
9. Sustainability Community Services at IAU .....	109
10. IAU's Sustainability-related Start-ups .....	118
11. IAU's Initiatives for Online Learning.....	124
12. Conclusion .....	128

# 1. Involving the Community



**KFHU Organizes an Awareness Campaign about Breast Cancer in Al-Khobar**



**IAU Launches "Qoot" Campaign for Ramadan Baskets for the Eighth Year**



**Afforestation Initiative Led by IAU**

**Figure 1-1. IAU involving in Community Activities**



Environmental Awareness Exhibition and Workshops in Environment week



IAU Organizes "Tales of Volunteering" Exhibition to Highlight its Voluntary Efforts



IAU Launching Smart Mobility Service

Figure 1-2. IAU involving in Community Activities



**IAU Provides Winter Clothing for 2,300 Families in the Eastern Region**



**"DAFEH" Program**

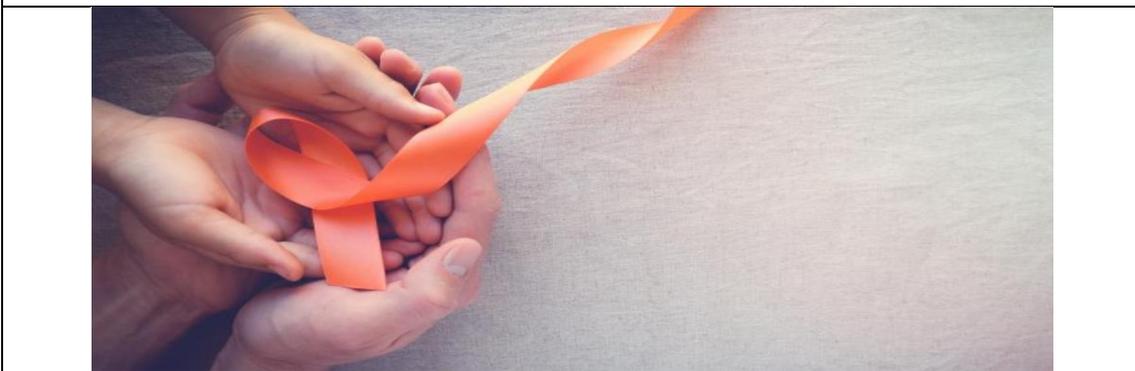


**IAU Scouts Team Participates in Serving the Pilgrims**

**Figure 1-3. IAU involving in Community Activities**



**“Barcode” and the smart assistant are modern techniques in the pharmacy of KFHU**



**Launching the First Awareness Campaign to Introduce Multiple Sclerosis in Khobar**



**IAU Concludes to Collect in Kind Donations and Prepare Ramadan Food Basket**

**Figure 1-4. IAU involving in Community Activities**

## 2. Greenhouse Gas Emission Reduction Program



Solar Panel usage at IAU

Figure 2-1. Solar Panel Usage at IAU



Solar Panel Installed all over IAU campuses

Figure 2-2. Solar Panel Installed at IAU



**Night View of Solar Outdoor Signage in IAU Campus**

**Day-View of Solar Outdoor Signage In IAU Campus**

**Figure 2-3. Solar Outdoor signage at IAU**



Wind power plant at IAU

Figure 2-4. Wind Energy Usage at IAU



**Green University without Carbon Under the Slogan “Towards a Sustainable Environment”**



**IAU Launching Smart Mobility Service**

**Figure 2-5. Greenhouse Initiatives at IAU**

### **3. Collaboration with NGOs for Various SDGs**



**Saudi Aramco Cybersecurity Chair and IAU launched 'Aman' initiative**



**The "Star Leaders" Summer Program with Local and International Partnerships**

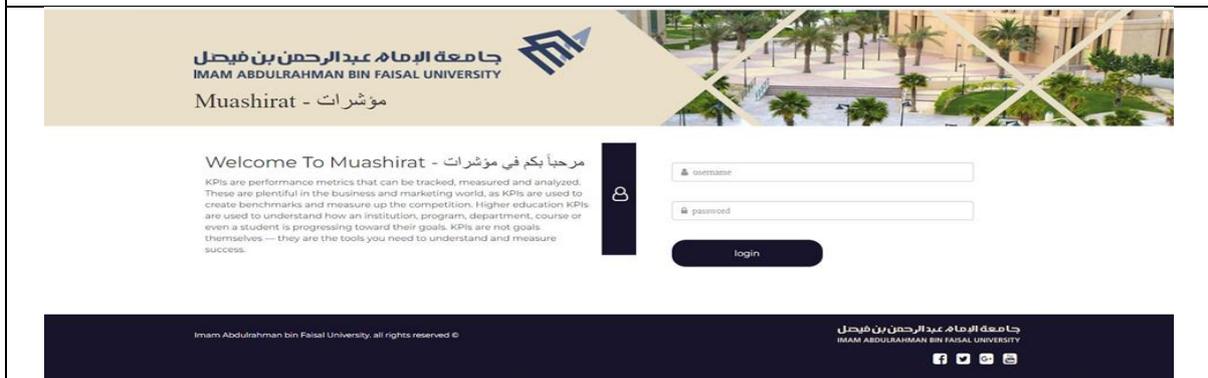


**IAU Showcases its Research Products, Patents, and Some Innovations at the Sustainable Partnerships Conference in Riyadh**

**Figure 3-1. Collaboration activities at IAU**



**Estibana – Paperless online survey management system**



**Muashirat – Paperless Key performance Indicators Management system**



**Hemaya – Paperless Incidents reporting system**

Figure 3-2. Development of the “In-house Web Application” by IAU to save paper

Table 3-1. Community Partnerships related to Green Campus Initiative

#	Community Partnerships	Date	1st Party	2nd Party
1	<i>Dafeh</i> initiative Partnership (Sustainable Safety Shields, training UOD students on how to act in disasters)	2014-Ongoing	Imam Abdulrahman Bin Faisal University <i>Previously</i> University of Dammam, Deanship of Community Services and Sustainable Development	Eastern Province Emarah Ministry of Interior General Directorate of Civil Defense Saudi Aramco
2	<i>Itaam</i> Partnership (healthy eating lifestyle and saving the excess food)	2016- ongoing	Imam Abdulrahman Bin Faisal University <i>Previously</i> University of Dammam's All Colleges and Deanships	Saudi food bank ITAAM
3	<i>Irtiqaa</i> Partnership (Healthy technology lifestyle towards recycling and refurbishing computers)	2016- ongoing	Imam Abdulrahman Bin Faisal University <i>Previously</i> University of Dammam Deanship of Communication &IT All Colleges, Deanships	IRTIQA
4	Strategic Partnership with Aramco (Covers education, research, community service, entrepreneurship, administration)	2014 - ongoing	Imam Abdulrahman Bin Faisal University <i>Previously</i> University of Dammam Deanship of Communication &IT All Colleges, Deanships	Saudi Aramco
5	King Abdulaziz Center for National Dialogue Partnership	2016-ongoing	Imam Abdulrahman Bin Faisal University <i>Previously</i> University of Dammam	King Abdulaziz Center for National Dialogue
6	National Center for Assessment in Higher Education (QIYAS), Riyadh, Kingdom of Saudi Arabia	ongoing	Imam Abdulrahman Bin Faisal University <i>Previously</i> University of Dammam	

## 4. Events Related to Sustainability

Table 4-1. IAU Events related to Sustainability

#	Events	Type of Event	Description	Place/ Participants
1	Afforestation Initiative Led by IAU	Awareness Campaign	Imam Abdulrahman bin Faisal University launched (Green University without Carbon Initiative) aiming to plant thousands of seedlings and trees with participation of IAU employees and students in Campaigns for mass afforestation in the university areas over Dammam, Khobar, Qatif and Jubail, to reduce carbon emissions, as the first initiative of its kind at the level of universities in the Kingdom, to consolidate the concept of sustainability inside campuses at the level of the local community.	Employees and Students

2	Exhibition and awareness workshops about environmental awareness in Environment week	Exhibition and awareness workshops	Imam Abdulrahman bin Faisal University organizes this event and It is participating in the activities of the Saudi Environment Week, which was launched under the generous patronage of His Royal Highness Prince Saud bin Nayef bin Abdulaziz Al Saud, Governor of the Eastern Province, under the slogan "Our environment is our Responsibility" organized by the branch of the Ministry of Environment, Water and Agriculture in Al Khobar Corniche. IAU wing displays patents obtained by university affiliates, including the ecological tree to produce electric power and air purification, in addition to a patent for use of green plants treated with nano-titanium oxide to get rid of air pollutants.	Community members and Specialists, IAU
3	Sustainable Partnerships Conference	Conference and Exhibition	IAU participated in the Sustainable Partnerships Conference and Exhibition held at Riyadh. It showcases its research products, patents, and some innovations at the Sustainable Partnerships Conference in Riyadh.	Local and International leaders, Decision Makers, Riyadh
4	Smart Mobility Service	Inauguration Function	The President of IAU inaugurated the pilot phase of the smart mobility service for generating clean energy inside the university campus by bicycles and electric scooters through (WAYZ)	Al-Rakah campus, IAU

			application, on Al-Rakah campus. To sustain this service, there are solar-powered plants, will be operated in the next stages.	
5	Advanced pharmaceutical services AT KFHU	Launching New service	The Department of Pharmaceutical Services at KFHU of IAU, launched a set of advanced technical services to provide the best services to patients to ensure the optimal use of drug in an effective and safe manner.	The Department of Pharmaceutical Services, KFHU, IAU
6	Department of Environmental Architecture at IAU Develop Wahat-Mada Housing	Development Program	The students of the Department of Environmental Architecture at College of Architecture and Planning of IAU participated in the development of the external spaces of the housing units of <i>Wahat-Mada in Dammam</i> , one of the projects of <i>Charity Society for Orphans Care (Bena)</i> in the Eastern Region in collaboration with Development Housing. Those also presented sustainable and modern design solutions that match the nature of the social, cultural and economic population in an area of approximately 21,000 square meters.	Students, Department of Environmental Architecture, College of Architecture and Planning, IAU
7	Patent for Clean Energy	Achievement	United States Patent Office registered a patent to the Associate Professor of Organic Chemistry at IAU, Dr. Asma Al-Sharif, in field of Clean Energy	IAU

			for her innovative method of producing nano-sorbent material consisting of carbon nanotubes grafted with acrylic acid and an acrylamide polymer.	
8	Consulting Center for Buildings Energy	Service	It is a body accredited by IAU Institute of Consulting Studies to deliver training and consulting services in field of engineering related rationalization of energy consumption. Its scope of work include: i) Training, education and workshops in the areas of sustainability, green buildings and energy conservation, ii) Energy efficiency studies and audits of existing buildings, iii) Environmental and indoor air quality studies of buildings.	Governmental Sectors Consultation offices and contracting companies Training institutions Housing and real estate appraisal sectors Individuals and architecture workgroups



**Environmental Awareness Exhibition and Workshops in Environment week**



**IAU Showcases its Research Products, Patents, and Some Innovations at the Sustainable Partnerships Conference in Riyadh**



**Afforestation Initiative Led by IAU**

**Figure 4-1. Events related to Sustainability at IAU**



**IAU Launching Smart Mobility Service**



**“Barcode” and the smart assistant are modern techniques in the pharmacy of KFHU Including the delivery of medicine to the patient's home across the Kingdom**



United States Patent Office registered a patent to the Associate Professor of Organic Chemistry at IAU, Dr. Asma Al-Sharif, in field of Clean Energy for her innovative method of producing nano-sorbent material consisting of carbon nanotubes grafted with acrylic acid and an acrylamide polymer.

**Clean Energy Patent registered by United States Patent Office for an inventor from IAU**

**Figure 4-2. Events related to Sustainability at IAU**



### “Aman” Awareness Initiative in Eastern Schools

The Students of the Department of Environmental Architecture at College of Architecture and Planning of IAU Participated in the Development of the External Spaces of the Housing units of Wahat-Mada in Dammam,



### Department of Environmental Architecture at IAU Develop Wahat-Mada Housing

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#### Institute of Consulting Studies

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- Dean's Message
- Organizational Structure
- Services
  - Experience Houses
- Publications
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- Our Partners
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#### Consulting Center for Buildings Energy

**About**  
It is a body accredited by IAU Institute of Consulting Studies to deliver training and consulting services in field of engineering related rationalization of energy consumption.

**Vision**  
Toward a specialized hub for consulting services and training in field of buildings energy.

**Mission**  
High quality services of innovative methods for achieving development socially, economically, and environmentally.

**Objectives**

- To invest the capabilities available at the university in terms of laboratories, simulation software, and expertise of faculty members in providing consultation services to external parties and buildings market in the field of energy consumption.
- To provide innovative and distinguished engineering solutions that reflect the university's scientific and creative position in field of buildings-energy conservation.
- To provide training courses, workshops, and training consultations for community various interested categories.
- To create training opportunities for university students to develop their capabilities through involving them in research consultation work.
- To strengthen the link with governmental and private sectors, which enhances the perspective of community service.

### Consulting Center for Buildings Energy

Figure 4-3. Events related to Sustainability at IAU

## 5. Cultural Activities for the Community

**Table 5-1. IAU Cultural Activities for the Community during the year 2022-2023**

Title of the Cultural Activities	Description of the Activities	Activity Date
93 <sup>rd</sup> Saudi National Day Celebrations	The deanship of scientific research delivers its greetings digitally to IAU employees and students. It has paid increasing attention to the scientific research and development sector, as one of the most important sources of sustainable economy and the ideal path to achieving prosperity in various fields.	23 <sup>rd</sup> September 2023
93 <sup>rd</sup> Saudi National Day Celebrations	The directorate of community partnership shares its happiness and greetings digitally to IAU employees and students.	23 <sup>rd</sup> September 2023
Saudi Foundation Day Celebrations	IAU shared its happiness and greeting digitally with their employees on Saudi Foundation Day 2023	22 <sup>nd</sup> February 2023
Ramadan 2023 Celebrations	IAU shared its happiness and greeting digitally with their employees on Ramadan 2023	2023
"University Joud" Competition for Volunteering Teams	The Director of the Community Partnership Department expressed how important it is for the University to collaborate Women's Charitable Association "Joud" in launching this kind of enhanced volunteerism opportunity through "University's Joud" competition, which aims at embrace and enhance the role of volunteering teams of female students and working to qualify female leaders for volunteering and developing the aspect of innovation and social creativity that maximizes the impact and sustains its, which is the biggest goal of community service. She also emphasized the role of college leaders in continuing their habit of encouraging and motivating female students in engaging in this competition as the	13 <sup>rd</sup> February 2023

	hope of the future and as an asset in building and developing society.	
"Aman" Awareness Initiative in Eastern Schools	"The Saudi Aramco Cybersecurity Chair and IAU has adopted many initiatives that contribute at raising the awareness of the users of smart devices and bring to public attention the importance of dealing with reliable technical sources. These initiatives are made due to the widespread use of technologies, smart devices, and social networking sites, and they aim at reducing the exposure of children, and teenagers, to the dangers of bullying, blackmailing, and illegal hacking. Thus, several initiatives educate students at the intermediate and secondary levels about the dangers of technical crimes through lectures that cover many schools."	2 <sup>nd</sup> October 2023
Health for All 2023	The King Fahd Hospital of the University (KFHU) celebrated "Health for All" on World Health Day	March 2023
World No Tobacco Day 2023	The King Fahd Hospital of the University (KFHU) celebrated "World No Tobacco Day" 2023 to make health awareness	May 2023
Saudi Environment Week	Imam Abdulrahman bin Faisal University organizes an exhibition and awareness workshops about environmental awareness	2022
World Teachers Day	The College of Education, Department of Educational Technologies of IAU celebrated "World Teachers Day" event titled "Empowering teachers using modern technologies: challenges and solutions"	2023
World Mental Health Day	The University Counselling Center of IAU invited to attend the World Mental Health Day Event under the slogan: Mental health is a universal human right	2023

Food Safety Awareness Day	The King Fahd Hospital of the University (KFHU) celebrated “Food Safety Awareness Day” 2023 to make health awareness and nutritional education.	June 2023
World Breastfeeding Day	The King Fahd Hospital of the University (KFHU) celebrated “World Breastfeeding Day” 2023 to make health awareness.	August 2023
World Cancer Day	The King Fahd Hospital of the University (KFHU) celebrated “World Cancer Day” 2023 to make health awareness.	February 2023
Saudi Healthy Marriage Day	The King Fahd Hospital of the University (KFHU) celebrated “Saudi Healthy Marriage Day” 2023 to make health awareness.	February 2023
World Asthma Day	The King Fahd Hospital of the University (KFHU) celebrated “World Asthma Day” 2023 to make health awareness and protect human lungs from pollutants	May 2023
World Children’s Cancer Day	The King Fahd Hospital of the University (KFHU) celebrated “World Children’s Cancer Day” 2023 to make health awareness.	February 2023



93rd Saudi National Day Celebrations 2023 – Deanship of Scientific Research



93rd Saudi National Day Celebrations 2023 – Directorate of Community Partnership



Saudi Foundation Day Celebrations 22nd February 2023

Figure 5-1. Cultural Activities for the Community

**International Childhood Cancer Day**  
**اليوم العالمي لسرطان الأطفال**  
**15 February**

Together, on ICCD, we raise our voices and envision the day all children and adolescent with cancer benefit from the best possible treatment, care and support regardless of where they live in the world.

**Act Now**

**400.000**  
Children and Adolescents diagnosed with cancer each year

وحدة التوعية الصحية  
Health Awareness Unit

جامعة الإمام عبد الرحمن بن فيصل  
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY  
مستشفى الملك فهد الجامعي  
King Fahad Hospital The University

Together

ICCD  
International Childhood Cancer Day

**World Children's Cancer Day**

**4 May**  
**World Asthma Day**

**Asthma Prevention Methods**

جامعة الإمام عبد الرحمن بن فيصل  
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY  
مستشفى الملك فهد الجامعي  
King Fahad Hospital The University

Taking the seasonal flu vaccine to relieve the severity of the flu

Prevention of indoor and outdoor allergens

Follow a healthy lifestyle by eating a balanced diet and exercising

Avoid the factors that lead to an asthma attack, avoid smoking, and stay away from smokers.

#Asthma Care for All

Health Awareness Unit

**World Asthma Day**

اليوم السعودي  
للزواج الصحي  
فبراير 19

جامعة الإمام عبد الرحمن بن فيصل  
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY  
مستشفى الملك فهد الجامعي  
King Fahad Hospital The University

وحدة التوعية الصحية  
Health Awareness Unit

سعادة أسرته  
تبدأ بالزواج الصحي

- الحد من انتشار بعض أمراض الدم الوراثية و الأمراض المعدية.
- نشر الوعي بمفهوم الزواج الصحي الشامل.
- تقليل الضغط على المؤسسات الصحية و بنوك الدم.
- تجنب المشاكل الإجتماعية و النفسية للأسر التي يعاني أطفالها.
- التقليل من الأعباء المالية الناتجة عن علاج المصابين على الأسرة و المجتمع.

**Saudi Healthy Marriage Day 2023**

**Figure 5-2. Cultural Activities for the Community**



World Cancer Day 2023



World Breastfeeding Day 2023



Food Safety Awareness Day 2023

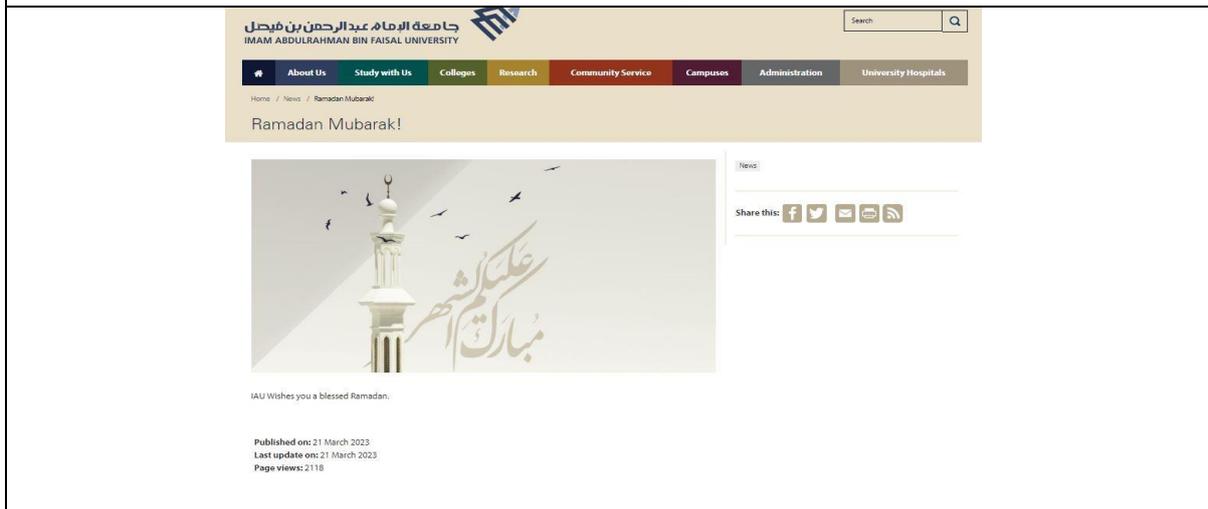
Figure 5-3. Cultural Activities for the Community



### World Mental Health Day 2023



### World Teachers Day 2023



### Ramadan 2023 Celebrations with Greetings from IAU

Figure 5-4. Cultural Activities for the Community



### Saudi Environment Week



### Health for All 2023



### World No Tobacco Day 2023

Figure 5-5. Cultural Activities for the Community

## 6. Sustainability Courses

**Table 6-1. Sustainability Courses offered at IAU**

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	<p>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.</p>
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#### Contd....

6	Physical Hazards and Control	<p>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.</p>
7	Chemical Hazards and Control	<p>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 .</p>

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.
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**Contd....**

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	<p>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.</p>
15	Home Safety	<p>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.</p> <p>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.</p> <p>Develops skills in home safety hazard recognition, accident causes and investigations. Understanding the psychological and financial impacts of home safety incidents.</p>
16	Food safety	<p>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.</p>

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Contd....

17	Noise Exposure and control	<p>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.</p>
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18	Lands. Arch. Design Studio (5) (Site Design)	Credit hours 5
19	LANDSCAPE DESIGN PRINCIPLES & PROCESS	Credit hours 3
20	Environment & Ecological Systems	Credit hours 2
21	Planting Design	Credit hours 3
22	Urban Landscape Design Principles	Credit hours 3
23	Environmental Management	Credit hours 2
24	Lands. Arch. Design Studio (9) (Professional)	Credit hours 6
25	Lands. Arch. Design Studio 7 (Urban Landscape Design)	Credit hours 6
26	Irrigation Systems Design	Credit hours 3
27	Lands. Arch. Design Studio 8: (Landscape Planning)	Credit hours 5
28	CONTEMPORARY ISSUES IN LA	Credit hours 2
29	Landscape Planning	Credit hours 2
30	Lands. Arch. Design Studio 10: (Graduation Project)	Credit hours 7
31	Environmental Design I	2-hour credit hour theoretical lecture
32	DESIGN IV	The course focuses on important issues of landscape and urban design, which are related to the site; such as: views, topography, circulation (pedestrian and vehicular), orientation, hierarchy of spaces (private, semi-private, semi-public and public), as well as hard and soft landscape elements. Emphasis will be placed on scale projects, stressing design principles and composition (form-function relationships) including: landscape design; site planning and urban planning processes, standards and design

		criteria. It will include simple design problem solving issues and will also enhance the student's graphics and presentation skills.
33	Environmental Control Systems (Thermal)	2 theoretical hours and 1 case study
34	Environmental Control Sys. II	Credit hours 3
35	Construction Systems and Materials	3 credit hours, 2 theoretical lectures and 1 practical implementation
36	Environmental design II	2 theoretical hours and 1 case study

**Contd....**

37	Environmental Engineering Fundamentals	This course gives an introduction to engineering applications in the environment, including: air pollution control, surface and groundwater protection, water and wastewater treatment and solid and hazardous waste management. Selected concepts of biology, chemistry and physics, which are fundamental to the practice of environmental engineering and science, focusing on the transport, transformation, fate and impact of pollutants will be covered in this class.
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38	Water Quality	<p>The Water Quality course will cover the following topics: the standard methods of assessing water quality; practical approaches in solving water-related problems, field methods used to sample and assess various biological, physical and chemical components in water resources as well as the impact of human activity on aquatic environments. Standard sampling techniques, detection, identification and quantification of biological specimens and chemical pollutants in the aquatic environment will be discussed as well as: sustainable water management, sample preservation, safety, basic approaches to analyze and report findings with emphasis on methods currently practiced by government resource agencies. Guidelines and Saudi standards and regulations will be explained.</p>
39	Waste water Engineering I	<p>The topics will be covered: wastewater characteristics, wastewater sources, wastewater flows, plumbing, wastewater collection systems: components, layout, hydraulic features, operation, maintenance and performance, rehabilitation of wastewater systems along with flow models (Info-works, Micro drainage or mouse).</p>
40	Waste Water Engineering II	<p>The Wastewater Engineering II course will focus on treatment plant designs including: primary (grit removal, screening, sedimentation), secondary (Activated sludge, trickling filter, stabilization ponds, oxidation ditches, biological contactors), tertiary stages of treatment (filtration, nitrification and de-nitrification, phosphorous removal, ion exchange resins, disinfection). Sludge handling (digestion, stabilization and dewatering), final disposal, wastewater reclamation and reuse, land treatment systems and onsite systems, effluent concerns, standards and regulations and wastewater laboratory work will be a part of this course.</p>

41	Water Supply Engineering	This course covers an introduction to water purification technology. Water and health. Municipal water sources. source selection. Frame water use and forecast water distribution. Standards, legislation and guidelines. General design criteria. Types and design of water distribution systems. pumps, systems etc. internal distribution of water. Maintenance and testing of water networks. piping systems. materials and accessories. Flow measuring devices. Knowing and controlling corrosion. Transport and storage containers.
42	Environmental Microbiology	2 hours theory and 2 hours practical
43	Environmental Engineering and Energy Systems 1	This Environmental Engineering 1 course on energy systems in buildings will focus on thermal performance and the components of heating and cooling load calculations. The principles of psychrometry and its use in A/C systems will be presented and the students will learn how to estimate building cooling loads and air-conditioning

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		loads by using the latest software for building energy analysis. Building energy management systems will also be discussed with regard to materials, systems and operational assessment through energy auditing.
44	Environmental Engineering and Energy Systems 2	2-hour credit hour theoretical lecture
45	Design of Environmental Projects	This course will use structured programming and database management software and focus on applications in environmental engineering as well as solving open-ended problems and model simulations and sensitivity analysis.
46	Geotechnical Engineering	Elective. 2 hour in lecture

47	Solid and Hazardous Waste Management	This course will cover the following topics: types and sources of solid waste, chemical and physical properties of municipal and industrial refuse, solid waste collection methods, solid waste treatment as well as disposal techniques with an emphasis on: landfill disposal, incineration, composting and pyrolysis. Other topics that will be discussed are: salvage, reclaiming, recycle operations, the economics of disposal methods, advantages and disadvantages of each; special and hazardous waste handling; and operation and management of solid and hazardous waste programs.
48	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.
49	Environmental Design 1	2-hour credit hour theoretical lecture
50	Environmental Design 2	2-hour credit hour theoretical lecture
51	Design VII	Address the issues of sustainability in design development & Incorporate the issue of sustainability in housing design.
52	Design VIII	Develop an understanding of urban sustainability as an integral part of urban design & Incorporate the issue of sustainability in urban design.
53	Contemporary Issues in Architecture	Study the Sustainable Architecture: Energy Crisis, Green Architecture and Energy Responsive Design.
54	Lands. Arch. Design Studio 6 (Site Planning)	10 hours of practical
55	Construction Systems and Assemblage	Special emphasis on the issue of sustainability and how it can be incorporated in construction.
56	Landscape Plants (Identification & Use)	3-hour credit hour theoretical lecture
57	Special Topics in Sustainability	Energy and simulation applications in buildings

58	Landscape Arch. Graphics Skills	3-hour credit hour theoretical lecture
59	Landscape Design Principles	2-hour credit hour theoretical lecture
60	Building Services 3: Mechanical Systems	2 theoretical hours and 1 case study

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61	Environmental Engineering 2: Building Acoustics	2 theoritecal hours and 1 case study
62	Building Maintenance and Supervision	2-hour credit hour theoretical lecture
63	Environmental Engineering 3: Building Illumination	2 theoretical hours and 1 case study
64	Professional Practice	2-hour credit hour theoretical lecture
65	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
66	Capstone Project	A research project that student submit a report from it.
67	Design Studio (5)	*Two 5hour workshop in studio
68	Urban Geography	*One 3hour in lecture
69	Planning History & Theory	*One 3hour in lecture
70	Design Studio (6): Neighborhood Planning	*Two 5hour workshop in studio
71	Urban Design Theory	*One 3hour in lecture
72	Housing & Residential Development	*One 3hour in lecture
73	Design Studio (7): Urban Planning	*Two 5hour workshop in studio
74	Planning Methods & Techniques (1)	*One 3hour in lecture
75	Urban and Regional Economics	*One 3hour in lecture

76	Urban Sociology	*One 3hour in lecture
77	Planning Methods & Techniques (2)	*One 3hour in lecture
78	Urban Transportation Planning	*One 3hour in lecture
79	Design Studio (8): Regional Planning	*Two 5hour workshop in studio
80	Regional Planning	*One 3hour in lecture
81	Infrastructure Planning	*One 3hour in lecture
82	Planning for Sustainable Development	*One 3hour in lecture
83	Design Studio (9): Graduation Project (1)	*Two 5hour workshop in studio
84	Planning and Rural Development	*One 3hour in lecture
85	Special Topics in Urban Design and Housing	Elective. One 3hour in lecture
86	Housing Analysis & Design	Elective. One 3hour in lecture
87	Cityscape & Beautification	Elective. One 3hour in lecture

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88	Land Economics	Elective. One 3hour in lecture
89	Special Topics in Sustainability & Desert Development	Elective. One 3hour in lecture
90	Desert Development and Technology	Elective. One 3hour in lecture
91	Urban Digital Impacts	Elective. One 3hour in lecture
92	Urbanization in Saudi Arabia	Elective. One 3hour in lecture
93	Urbanization & Urban Development	*One 3hour in lecture
94	Design Studio (10): Graduation Project (2)	*Two 5hour workshop in studio

95	Urban Image	Elective. One 3hour in lecture
96	Design of Large Public Space	Elective. One 3hour in lecture
97	Housing Analysis and Design	Elective. 2 hour in lecture
98	Urban Conservation and Renewal	Elective. 2 hour in lecture
99	Cityscape and Beautification	Elective. 2 hour in lecture
100	New Towns and Recent Urban Development	Elective. One 3hour in lecture
101	Road Engineering Design	Elective. One 3hour in lecture
102	Social & Community Services Planning	Elective. One 3hour in lecture
103	Environmental Impact Assessment of Transportation	Elective. One 3hour in lecture
104	City Management & Administration	Elective. One 3hour in lecture
105	Knowledge-based Spatial Development	Elective. One 3hour in lecture
106	Special Topics in Urban & Regional Planning	Elective. One 3hour in lecture
107	Urbanization & Urban Development	Elective. One 3hour in lecture
108	Planning Geoinformatics for Disaster Management	Elective. One 3hour in lecture
109	Biochemistry II	2-hour lecture and 2-hour laboratory study
110	Biochemistry I	3-hour in lecture and 2-hour laboratory study
111	Food Chemistry	2-hours lecture and 2-hour laboratory study
112	Professional Responsibility	2 hours in lecture

113	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
114	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.
115	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.
116	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
117	Introduction to Public Health	The course is as a part of Public Health program which include 16 lectures on sustainability as embedded
118	Health Service Administration	The course is as a part of Public Health program which include 15 lectures on sustainability as embedded
119	Nutrition	The course is as a part of Public Health program which include 15 lectures on sustainability as embedded
120	Waste Management	The course is as a part of Public Health program which include 15 Theoretical and Practical Lessons on sustainability as embedded

121	Geriatrics	The course is as a part of Public Health program which include 16 lectures on sustainability as embedded
122	Evidence based public health	The course is as a part of Public Health program which include 8 lectures on sustainability as embedded
123	Chronic Disease	The course is as a part of Public Health program which include 22 Theoretical and Practical Lessons on sustainability as embedded
124	Advanced Environmental Health	The course is as a part of Public Health program which include 17 Theoretical and Practical Lessons on sustainability as embedded
125	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
126	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
127	Infection control	The course is as a part of Public Health program which include 21 Theoretical and Practical Lessons on sustainability as embedded
128	Mental Health and Psychology	The course is as a part of Public Health program which include 15 lectures on sustainability as embedded
129	Contemporary Public Health Issues and Challenges	The course is as a part of Public Health program which include 11 lectures on sustainability as embedded
130	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
131	Health Education & Promotion	The course is as a part of Public Health program which include 9 lectures on sustainability as embedded
132	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
133	Communicable Disease	The course is as a part of Public Health program which include 19 Theoretical and Practical Lessons on sustainability as embedded
134	School Health	The course is as a part of Public Health program which include 18 Theoretical and Practical Lessons on sustainability as embedded

135	Materials Applications	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
136	Textile and Printing	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.
137	Environmental Control Systems 1	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
138	Interior Design Studio 9	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.
139	Industrial Design Studio 5	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.
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140	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.
141	Materials and Manufacturing Processes 1	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.
142	Theory of Design II	Studying Sustainability in both: tradition bound and Contemporary Developments.

143	Interior Design Studio 5	<p>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.</p> <p>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.</p> <p>Upon completion of the course students will be able to conceive indoor settings and related interior design elements according to 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>
144	Handcrafts with Local Materials	<p>Create sustainable and green furniture by reusing available old furniture and scrap materials.</p> <p>Recognize ecofriendly materials used in furniture recycling.</p>
145	Landscape Design	<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. 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>

146	Industrial Design Studio 6	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.
147	Contemporary Design Issues 1	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.
148	Contemporary Design Issues 2	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.
149	Materials and Manufacturing Processes 2 (PRDSG 309)	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.

150	Industrial Waste Management (ENVH 212)	<p>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.</p>
151	Wastewater Management (ENVH 302)	<p>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”.</p>

152	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.
153	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.

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154	Environmental Biotechnology (ENVH 402)	<p>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.</p>
155	Air Pollution Monitoring and Management (ENVH 403)	<p>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.</p>

156	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.
157	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.

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158	Fundamentals of Soil Mechanics	Origin and composition of soils, soil structure. Soil compaction, permeability, seepage and flow nets, consolidation, and shear strength. Earth pressure on retaining walls and sheet piles. Stability of slopes and excavations. Mechanical tests: sieve analysis, permeability, resistance to shearing stress, consolidation/expansion. Index tests: granulometry, Atterberg limits, solid density, and water content. Rheologic tests: viscosity, yielding stress, deformation rate. Infrastructure for sampling and in-field testing
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159	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.
160	Energy and Environment	The course is an introduction to further studies in the Energy and environment study program, and therefore it will give an overview and a broad understanding of the subject area. Knowledge: The course provides the student with knowledge about key challenges and technologies in energy use, utilization of energy resources, energy conversion and environmental consequences
161	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 impact's energy production on environment and the relationship between energy production, consumption and climate change. 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. 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.

162	Nuclear Power	This course is of 3 credit hours which define 'nuclear energy'. Explain the health risks and safety concerns involved in using nuclear energy. It discuss waste disposal methods of nuclear waste
163	Energy Policy and Analysis (Program: Science and Humanities)	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.
164	Solar cells (Program: Science and Humanities)	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.

165	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>
166	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>
167	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>
168	Nuclear Energy (Program: Science and Humanities)	<p>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</p>

		peaceful purposes and storage of nuclear waste.
169	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.
170	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.
171	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.
172	Project-Phase 3 (Program Science and Humanities)	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.
173	Project-Phase 3 (Program Science and Humanities)	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.
174	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.
175	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.

176	Interpretation of the Quranic Verses of Verdicts 1 (QURN-102)	The Holy Qur'an and Environmental sustainability. 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
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		<p>by Allah. 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>
177	<p>Interpretation of the Quranic Verses of Verdicts (QURN 113);</p>	<p>The Holy Qur'an and Environmental sustainability. 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. 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>

178	Interpretation of the Quranic Verses of verdicts 3 (QURN 210);	<p>The Holy Qur'an and Environmental sustainability. 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. 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</p>
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		<p>resource is directly related to accountability and maintenance of the resource.</p>
179	Interpretation of the Quranic Verses of verdicts 4 (QURN 411)	<p>The Holy Qur'an and Environmental sustainability. 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</p>

		<p>damage, and reckless exploitation and mismanagement of natural resources are disliked by Allah. 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>
180	Quranic Sciences	<p>Sustainability Milestones in Islam. -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 (Kitab Manthoor) is a key in Islamic values.</p>
181	Introduction to Islamic Jurisprudence 1	<p>Sustainability Milestones in Islam. -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 (Kitab Manthoor) is a key in Islamic values.</p>
182	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. -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</p>

183	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.
184	Jurisprudence of financial Transactions 1	<p>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.</p> <p>2. 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.</p> <p>3. Religion can become a powerful part of the solution if humans embody a holistic spiritual view towards mankind, earth and cosmos.</p> <p>4. Islamic sharia thinkers aspire to see a new Islamic discourse that emphasizes and links faith, reason and empathy to ensure an ecological insight (Baseera). They try to rethink educational systems that neglected the beauty and majesty of nature and the cosmos.</p> <p>5. Islamic sharia thinkers warn that “The extinction of species around us which are simply communities like us (Ummam Amthalokom) may extend to humankind unless we change our worldviews and development models”, they call to revive the concept of Green Endowment Fund (Waqf) to support a transition to sustainable economy by promoting innovation (ijtihad) inspired by nature and culture.</p>
185	Jurisprudence of financial Transactions 2	-Islamic sharia thinkers are inspired by prophet Mohammed saying, “ <i>If it is the Last day of life and you have a small plant, make sure you plant it</i> ”.

186	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.
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187	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.
188	Introduction to Islamic Jurisprudence 2	Sustainability Milestones in Islam -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 (Kitab Manthoor) is a key in Islamic values.

189	Hadiths of verdicts 3	<p>Environmental Sustainability in Islamic Sharia: 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>
190	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>
191	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>

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192	Judicial Systems	<p>Environmental Sustainability in Islamic Sharia.: 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>
193	Sharia Intentions	<p>Environmental Sustainability in Islamic Sharia          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>

194	Dispute and Debate in Islamic Jurisprudence	<p>Environmental Sustainability in Islamic Sharia</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>
195	Jurisprudence of Zakat & Fasting	<p>Environmental Sustainability in Islamic Sharia</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>

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196	Agreed legal evidence	<p>Environmental Sustainability in Islamic Sharia</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>
197	Sciences of Hadith	<p>Hadiths and Environmental sustainability: 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.</p> <p>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>
198	Hadith of Verdicts 1	<p>Hadiths and Environmental sustainability</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 Muhammad (Sallallahu Alaihi Wasallam) on environmental sustainability are:</p> <ol style="list-style-type: none"> <li>1- "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)</li> <li>2- "If a Muslim plant a tree or sows seeds, and then a bird, or a person or an animal eats from it,</li> </ol>

		<p>it is regarded as a charitable gift (sadaqah) for him.” (Bukhari)</p> <p>3- “Whoever plants a tree and diligently looks after it until it matures and bears fruit is rewarded,” (Musnad)</p>
199	Hadiths of Verdicts 2	<p>Hadiths and Environmental sustainability</p> <p>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 Hima, 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>
200	Pillars of Faith	<p>Environmental Conservation in Islamic Sharia Teachings 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>

201	law of inheritance 1	<p>The Principle of Guardianship in Islamic Sharia</p> <p>The first principle which guides Islamic Sharia teaching on environmental sustainability is the concept of trusteeship. Being a khalifa (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>
202	Foundations of Law & Interpretation	<p>Obligation of Environmental Conservation in Islamic sharia</p> <p>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>
203	Economics	<p>Obligation of Environmental Conservation in Islamic sharia</p> <p>“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</p> <p>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>

204	Jurisprudence of crimes and penalties	<p>Obligation of Environmental Conservation in Islamic sharia</p> <p>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.</p> <p>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>
205	Jurisprudential Analogy	<p>Obligation of Environmental Conservation in Islamic sharia</p> <p>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.</p> <p>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:</p> <p>"Walk not exultantly upon the earth." Qur'an 17:63</p>

206	Hadiths on Judgments4	<p>Hadiths and Environmental sustainability 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 Hima, 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>
207	Jurisprudence of Judiciary	<p>Prophet Muhammad (Sallallahu Alaihi Wasallam) said:</p> <ol style="list-style-type: none"> <li>1- "The world is a green and pleasant thing. God has made you stewards of it and looks at how you behave."</li> <li>2- "The Earth is green and beautiful, and Allah has appointed you his stewards over it."</li> <li>3- "Whoever plants a tree and diligently looks after it until it matures, and bears fruit is rewarded."</li> <li>4- "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."</li> </ol> <p>In the Holy Qur'an, Muslims are instructed to look after the environment and not to damage or alter creation.</p> <p>"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</p>
208	Hadiths of verdicts 5	<p>Hadiths and Environmental sustainability 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>

209	Legal Maxims of Islamic Jurisprudence2	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.
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210	Islamic Legitimate Policies	Obligation of Environmental Conservation in Islamic sharia 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: "Walk not exultantly upon the earth." Qur'an 17:63
211	Energy Efficiency for Sustainable Development	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.
212	Tidal & Wave Energy	Provides a comprehensive and self-contained review of the developing marine renewable energy sector, drawing from the latest research and from the experience of device testing. The course has a twofold objective: to provide an overview of wave and tidal energy suitable for newcomers to the field and to serve as a reference text for advanced study and practice. This course include detail on key issues such as resource characterisation, wave and

		tidal technology, power systems, numerical and physical modelling, environmental impact and policy.
213	Hybrid Energy Systems	Review of Renewable Energy Systems including Solar, Photovoltaic, Wind, Solar Electric and Solar Thermal System Fundamentals
214	Atmospheric Pollution	Health and environmental effects of atmospheric pollution in the developed and developing world.
215	Petrochemical Energy	The course includes subjects like Reaction Engineering, Heat Transfer, Mass Transfer, Fluid Dynamics, Thermodynamics, Transport Phenomena are bridged with special subjects like Petrochemical Processes, Refinery operations with due weight-age on Numerical Computation Process Control, Modeling & Simulation.
216	Energy Markets	Understand how energy is supplied and what's happening with network charging. Develop knowledge of the key components of an energy bill. Recognise the key policies to achieve balance in the trilemma. Understand the wholesale market.
217	Energy & Environment	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.
218	Energy & Environmental Policy (ENRG 556)	The Energy and Environmental Policy (ENEP) degree prepares students to address Energy and Environmental initiatives from multiple disciplines. The major offers an exciting opportunity for students to prepare for academic and professional careers in the high-demand fields of clean and renewable energy, environment, sustainable development, environmental justice and climate change.

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219	Renewable Energy (ENRG403)	Solar Thermal Design Methods; Wind Characteristics and Resource Assessment; Geothermal Power Systems; Performance, Analysis and Design
220	Solar Power System Design (ENRG 557)	In this course, you will learn what the solar system is and what its main components are, Introduction to solar energy world and design. The solar energy course is your course to enter the solar energy field as a beginner. You will also learn the simple installation procedure of the practical system, aesthetics, and appearance. how to price the system in an easy way and the calculation of a simple Payback period, You will also be able to make a technical and financial report professionally for your customers or the company you work with
221	Energy Storage (ENRG510)	Solar Energy and Thermal Energy Storage; Thermal Energy Storage and Environmental Impact; Thermal Energy Storage and Energy Savings.
222	Design of Environmental Projects	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.
223	Environmental Chemistry	Green Chemistry for a Sustainable Future
224	Introduction to Geotechnical and Geo-environmental Engineering	This course will cover conventional saturated soil mechanics to unsaturated soil behavior, rock mechanics, hydrogeology and geosynthetics, geo-environmental problem identification and risk management; Physicochemistry of soils for geo-environmental engineering; contaminant hydrogeology; barrier systems; geosynthetics in liquid-containing structures; covers for waste; monitoring of contaminants and consideration of risk; in-situ, containment and treatment of contaminated soil and groundwater, as well as management of contaminated soil in engineering

		construction.
225	Geology	This course explores the fundamentals of geology applied to construction engineering problems. Topics include rock and mineral types, soil properties, rock mechanics, geologic structures, active tectonics and earthquake hazards, slope stability and landslides, groundwater, rivers and flood hazards. Instruction is conducted through lecture and field trips..
226	Desalination	The course will discuss the various desalination processes including various chemical and mechanical pretreatment and post treatment processes that are used to make the water safe and pleasant to drink. Maintenance and disposal issues associated with the different types of desalination processes will be discussed. Design examples will be presented to aid in understanding the course material.

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227	Engineering Hydrology	This class will cover the following subjects: the hydrologic cycle, forms and measurement of precipitation, hydrological data, hydrological equation, water losses (evaporation, infiltration, transpiration, water shed leakage), catchment's characteristics, soil moisture, runoff processes, flood estimation and control, flood and reservoir routing, arid and semi arid regions, hydrograph analysis, groundwater occurrence, distribution, movement, exploration and recharge. Well hydraulics and design, interaction of ground and surface water. Pumping test design, an introduction to groundwater models, leaky aquifers will also be discussed, along with information on saltwater intrusion.
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228	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
229	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.
230	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
231	Environmental Law and Regulation	This course will cover the following topics: the principles of environmental legislation, obligations under environmental legislation, The Environmental Protection Act, appropriate as well as realistic environmental management models through environmental laws and regulations that support the idea of sustainable development via environmental law. Saudi Arabian environmental laws and regulations and environmental ethics will be explored in this class as well.
232	Air Pollution Control	Knowledge-based, practical, and sustainable applications of air pollution and control to identify, formulate, and solve real-world engineering problems.
233	Noise Pollution & Control	Noise control techniques and sustainable noise mitigation approaches
234	Strategic Management	Two modules: - Vision, Mission, Objectives - (Environmental Analysis)

235	Business Ethics	Three modules - Corporate Social Responsibilities (CSR) - Code of Conduct - Organizational Culture
236	Human Resource Management	One Module: Managerial Development
237	Marketing communication	1- Public relations and social responsibility 2- Marketing ethics (1 lesson)
238	Strategic marketing	SWOT analysis

239	Product management and brand	Green products and packages
240	Applications of GIS for Human Geography	All the applications in this section are about sustainability of human geography. About resilient, sustainable and safe infrastructure.
241	Applications of GIS for Physical Geography	All the applications in this section are about sustainability of physical geography.
242	Development and Planning	Theories of development and strategies of planning. Hurricanes and strong air-masses. Floods and severe conditions relating to climate change.
243	Contemporary Topics In Geography	Most of modules are about sustainable development and the international indicators of sustainability in economic, social and environmental levels.
244	Climate Geography	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.
245	Graduation Project	Some students choose topics that related on sustainable development.
246	Physical Geography of Arid Lands	Conservation of land is one of the sustainable development goals mainly about combat desertification in arid and semi-arid zones.
247	Population Geography	There are some lesson about development and population>
248	Social Geography	Human resources development
249	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.
250	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)
251	Industrial Design Studio 7	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).
252	Crafts in Saudi Arabia	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.

253	Biomimicry in Engineering and Design (Innovation inspired by nature)	<p>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.</p>
254	Design Studio 8 (Sustainable)	<p>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</p>

		requirements.
255	Sustainable Designs	<p>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.</p>

256	Interior Architectural Heritage of Saudi Arabia	<p>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</p>
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		<p>belongings that represent and reflect the cultural as well as Islamic values.</p>
257	Environmental Impacts of Transportation Systems	<p>The impacts of transportation systems on the environment are of increasing importance to both planning and policy, and there are numerous challenges in managing these impacts. This course aims to provide an understanding of the complex relationships between transportation and the environment; to discuss the environmental impacts of various modes of transportation; To analyze the causes and discuss the technology and policy required to solve these environmental problems. The course focuses in particular on advanced methods and techniques for monitoring and evaluating the environment, land use, and transportation policy, and how these findings affect the environment</p>
258	Biology for Engineers	<p>This is an introductory course for undergraduates in the Department of Biomedical engineering. The course mainly emphasizes the learning of fundamental principles of biology. Course topics include: Basic concepts of life, molecular requirements of life - cell and its components, cells and energy, utilization and control of cellular metabolism - tissues, organs and systems, digestion, respiration, waste disposal and transport mechanisms - Introduction to modern biology (evolution, genetics and homeostasis).</p>
259	Advanced Solid Waste Management and Remediation	<p>This course investigates the management of solid waste and remediation processes. The course includes: establishment of a waste reduction and waste-to-resource culture; sustainable waste management in the context of greenhouse gas emissions and renewable energy generation; use of CO<sub>2</sub> as a feedstock and its long term storage options; solid waste disposal and recycling (municipal, C&amp;I, C&amp;D); landfill management; microbiological (aerobic and anaerobic) and chemical/physical remediation techniques for recalcitrant organic compounds such as petrochemicals in soils and aquifers.</p>

260	Water Reuse Technologies and Applications	This postgraduate course has been created as a result of consultation with industry and academics who have expressed the need for engineering students to be educated about the water challenges of the 21st century. It covers Advanced water, wastewater, greywater, stormwater treatment technologies including advanced oxidation processes, photochemistry, electrochemistry, membrane treatment, and fundamentals of water reuse, applications, and case studies for potable reuse, industrial reuse, and aquifer recharge. Includes an individual research project.
261	Air Quality Engineering	In this program, we integrate measurements and modeling with issues of policy and decision making to allow evaluation of complex air quality problems. This coursework is interdisciplinary and aims to provide you with skills, analysis tools, and technologies to meet emerging sustainability challenges at Master's level.
262	Future Sustainable Development	This programme examines the critical relations between development planning and socio-environmental challenges in urban areas. It challenges mainstream approaches to development, focusing on strategic pathways to address environmental injustices and enhance collective capacities to act.
263	Water Resources Planning	The program aims to train students to understand the scientific problems involved in the management of water. Our nested postgraduate program in water resources management is designed to meet students from different disciplines at their point of educational need and provides real flexibility both in terms of content and modes of delivery.
264	Environmental Law and Regulation	Apart from energy management and regulation, this course copes with questions of sustainability, resource management, environmental and food safety, natural conservation and degradation. This selection of core topics indicates the heat of the environmental debate. It touches every sphere of human living: economic production and trade, energy and public service provisions, and human health.

265	Human Behavioral Factors in Landscape Architecture	Elective. 3 credit hour in lecture
266	Parks & Recreation	Elective. 3 credit hour in lecture
267	Climate and Landscape in hot- arid zones	Elective. 3 credit hour in lecture
268	Special Issues in Garden Design	Elective. 3 credit hour in lecture
269	Tourism and Outdoor Recreation	Elective. 3 credit hour in lecture
270	Special Topics in Landscape Design	Elective. 3 credit hour in lecture
271	Ecology & Built Environment	Elective. 3 credit hour in lecture
272	Costal Landscape management	Elective. 3 credit hour in lecture
273	Landscape Ecological Planning & Design	Elective. 3 credit hour in lecture
274	Environmental Assessment	Elective. 3 credit hour in lecture
275	Independent Study	Elective. 3 credit hour in lecture
276	Special Topics in Landscape Planning	Elective. 3 credit hour in lecture

**Contd....**

277	Soil Science & Hydrology	Elective. 3 credit hour in lecture
278	Ornamental Horticulture	Elective. 3 credit hour in lecture
279	Technical Issues in Landscape Design	Elective. 3 credit hour in lecture
280	Remote Sensing Applications in Landscape Architecture	Elective. 3 credit hour in lecture
281	Special Topics in Landscape Technology	Elective. 3 credit hour in lecture
282	Acoustical Modeling	Elective. 3 credit hour in lecture

283	Advanced Topics in Building Energy	Elective. 3 credit hour in lecture
284	Building Sustainability and Assessment	Elective. 3 credit hour in lecture
285	Fire Protection and Life Safety	Elective. 3 credit hour in lecture
286	Noise and Vibration Control	Elective. 3 credit hour in lecture
287	Advanced Structural Analysis	Elective. 3 credit hour in lecture
288	Advanced Geotechnical Engineering	Elective. 3 credit hour in lecture
289	Green and Sustainable Buildings	Elective. 3 credit hour in lecture
290	Modeling and Optimization of Energy Systems	Elective. 3 credit hour in lecture
291	Climate and Architecture	Elective. 3 credit hour in lecture
292	Energy and Form in Architecture	Elective. 3 credit hour in lecture
293	Special Topics in Sustainability	Elective. 3 credit hour in lecture
294	Contemporary Arab Islamic Architecture	Elective. 3 credit hour in lecture
295	Indigenous Architecture in Saudi Arabia	Elective. 3 credit hour in lecture
296	Ecology and Coastal Protection	Elective. 3 credit hour in lecture
297	Reuse and Adaptability	Elective. 3 credit hour in lecture
298	Conservation of Buildings	Elective. 3 credit hour in lecture
299	Special Topics in Conservation	Elective. 3 credit hour in lecture
300	Daylighting in Architecture	Elective. 3 credit hour in lecture
301	Transportation & Land Use Development	Elective. 3 credit hour in lecture

302	IT in Urban & Regional Development & Management	Elective. 3 credit hour in lecture
303	Workshop I Local Development (Urban)	Elective. 3 credit hour in lecture

**Contd....**

304	Workshop II Regional development (Spatial)	Elective. 3 credit hour in lecture
305	Renewable Energy	3 credit hour in lecture
306	Solar and heat cells	4 credit hour in lecture
307	Energy Storage	5 credit hour in lecture
308	Green Energy Laboratory	6 hours Practical
309	Wind Energy	3 credit hour in lecture
310	Energy and Environmental problems	3 credit hour in lecture
311	Energy Policy and Analysis	3 credit hour in lecture
312	Advanced Green Energy Laboratory	6 hours Practical
313	Smart buildings	3 credit hour in lecture
314	Knowing Natural resources: Solar	5 credit hour in lecture
315	Knowing Natural resources: Wind	5 credit hour in lecture
316	Basics of Ecology	3 credit hour in lecture
317	Population Ecology	3 credit hour in lecture
318	Desert Ecology	3 credit hour in lecture
319	Flora of Saudi Arabia	2 credit hour in lecture
320	Environmental Economics	3 credit hour in lecture
321	Biology of Palm Tree	3 credit hour in lecture
322	Water Quality & Sanitation	2 credit hour in lecture

323	Bioremediation of Pollutants	2 credit hour in lecture
324	Environmental Toxicology	3 credit hour in lecture
325	Introduction to Environment Remote Sensing	2 credit hour in lecture
326	Ecosystem of Arab Gulf	3 credit hour in lecture
327	Sustainable materials and management	3 credit hour in lecture
328	Introduction to Renewable Energy	3 credit hour in lecture
329	Advanced Air pollution control	3 credit hour in lecture
330	Industrial waste engineering and management	3 credit hour in lecture
331	GIS for Environmental Engineers	3 credit hour in lecture
332	Environmental impacts assessments	3 credit hour in lecture
333	Environmental management & economics	3 credit hour in lecture
334	Energy & material recovery from solid waste	3 credit hour in lecture
335	Beneficial use of waste materials	3 credit hour in lecture
336	Environmental Biogeochemistry of trace metals	3 credit hour in lecture
337	Application of Sustainability Principles to Environmental Engineering Practice	3 credit hour in lecture
338	<b>Renewable energy &amp; environment</b>	3 credit hour in lecture
339	Special topics in environmental engineering	3 credit hour in lecture
340	Industrial water & wastewater treatment	3 credit hour in lecture

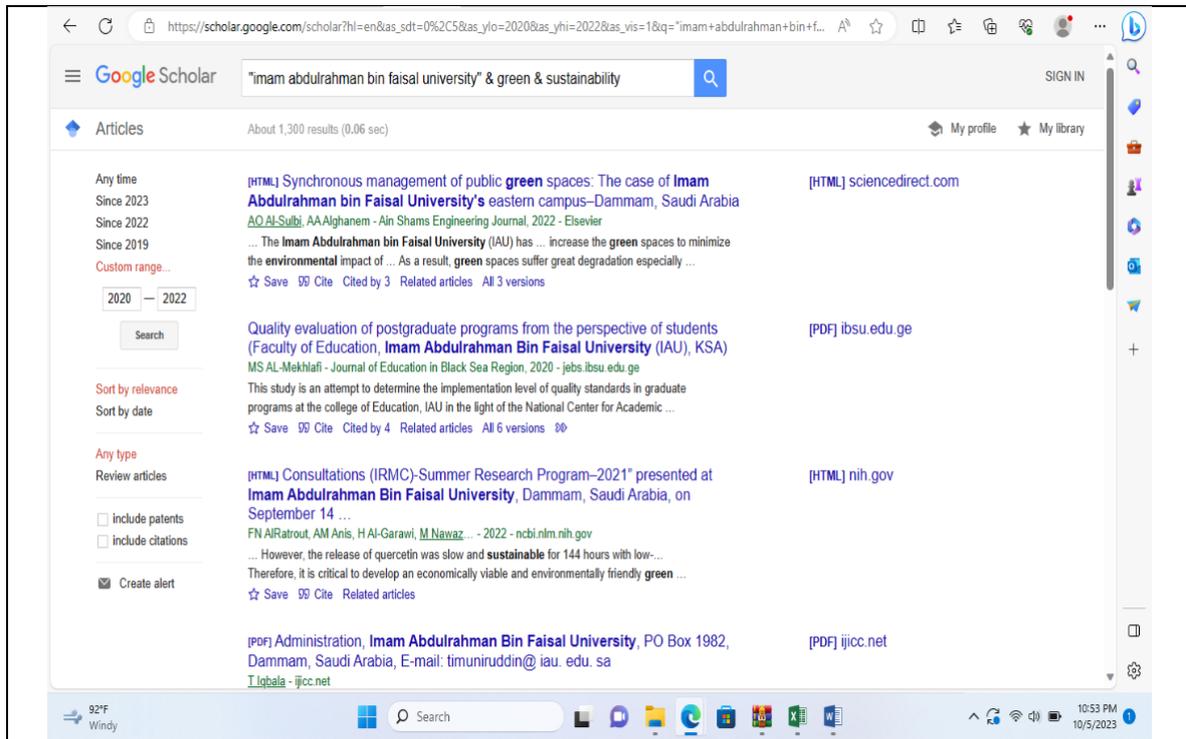
341	Groundwater and contaminated site remediation	3 credit hour in lecture
342	Green Processes	3 credit hour in lecture
343	Environmental chemistry	2 Credit hour in lecture
345	Environmental impact assessment ENVH 404	2 credit hour in lecture
346	Environmental impact assessment BIOL 408	2 credit hour in lecture
347	Environmental health and epidemiology	3 credit hour in lecture
348	Environmental health risk assessment	3 credit hour in lecture
349	Ground water Engineering and Contamination	3 credit hour in lecture
350	Site remediation	3 credit hour in lecture
351	Hazardous Waste Engineering and Management	3 credit hour in lecture
352	Industrial Wastes Management ENVEN 564	3 credit hour in lecture
353	Wastewater Reclamation and Reuse	3 credit hour in lecture
354	Renewable and Sustainable Energy	4.5 credit hour in lecture
355	Steam Power Production	4 contact hours
356	Smart Grid Systems	3 credit hour in lecture
357	Tidal & Wave Energy	3 credit hour in lecture
358	Renewable Energy Projects Management	2 credit hour in lecture
359	Energy Efficiency	2 credit hour in lecture
360	Advanced Topics in Building Energy	3 credit hour in lecture

361	Introduction to Energy Efficiency	2 credit hour in lecture
362	Energy Policy and Analysis	2 credit hour in lecture
363	Building Sustainability and Assessment	3 credit hour in lecture
364	Special Topics in Conservation	3 credit hour in lecture
365	Environmental Control System (thermal)	2 credit hour in lecture
366	Environmental Design 1	2 credit hour in lecture
367	Environmental design (2)	2 credit hour in lecture
368	Environmental Management	2 credit hour in lecture
369	Environment & Ecological Systems	2 credit hour in lecture
370	Climate and Landscape in hot-arid zones	3 credit hour in lecture
371	Ecology & Built Environment	3 credit hour in lecture
372	Landscape Ecological Planning & Design	3 credit hour in lecture
373	Environmental Assessment	3 credit hour in lecture
374	Soil Science & Hydrology	3 credit hour in lecture
375	Remote Sensing Applications in Landscape Architecture	3 credit hour in lecture

376	Energy and Environmental problems	2 credit hour in lecture
377	Sustainability Design Studio 3(Arch&Interior)	Elective. 3 credit hour in lecture
378	Sustainability Design Studio 4 (UR&LA)	Elective. 3 credit hour in lecture
379	Environmental Control System	Elective. 3 credit hour in lecture
380	Environmental Design 1	Elective. 3 credit hour in lecture
381	Environmental Design (2)	Elective. 3 credit hour in lecture
382	Design Studio V	Elective. 3 credit hour in lecture
383	Design Studio VI	Elective. 3 credit hour in lecture
384	Env. Control Systems	3 credit hour in lecture
385	Design Studio VII	3 credit hour in lecture
386	Design Studio VIII	3 credit hour in lecture
387	Design Studio (5): Tech. Proj.	3 credit hour in lecture
388	Design Studio (6) :Tech. Proj.	3 credit hour in lecture
389	Env. Eng. (3),Bldg Illuminaton	3 credit hour in lecture
390	design Studio 5 Interior Theme	3 credit hour in lecture
391	Design Studio 6 (Construction)	2 credit hour in lecture
392	Design Studio -7 (Reuse & Adap	2 credit hour in lecture
393	Design Studio - 8 (Sustainable	2 credit hour in lecture
394	Sustainable Designs	2 credit hour in lecture
395	Sustainable Designs	2 credit hour in lecture
396	Design Studio - 9 (Professiona	2 credit hour in lecture

397	Design Studio -10 (Graduation)	2 credit hour in lecture
398	Lands. Arch. design Studio 5	2 credit hour in lecture
399	Lands. Arch. Design Studio 6	2.5 credit hour in lecture
400	Landscape Plants Idetific.&Use	2 credit hour in lecture
401	Planting Design	2.5 credit hour in lecture
402	Environment&Ecological Systems	2.5 credit hour in lecture
403	Environmental Management	2.5 credit hour in lecture
404	Lands. Arch. Design Studio 7 (	2.5 credit hour in lecture
405	Lands. Arch. Design Studio 8	2.5 credit hour in lecture
406	Site engineering 2	2.5 credit hour in lecture
407	Lands. Arch. Design Studio (9)	2.5 credit hour in lecture
408	Lands. Arch. Design Studio (10)	5 credit hour in lecture
409	Lands. Arch. Design Studio (10)	5 credit hour in lecture
410	Design Studio 5: Planning Grap	5 credit hour in lecture
411	Design Studio (6): Neighb. Pl	5 credit hour in lecture
412	Design Studio (7): Urban Plann	5 credit hour in lecture
413	Design Studio (8) Regional Pla	3 credit hour in lecture
414	Urban and Regional Economics	3 credit hour in lecture
415	Planning for Sustainable Devel	3 credit hour in lecture
416	Design Studio (9): Graduation	3 credit hour in lecture
417	Design Studio (10): Graduation	3 credit hour in lecture
418	Rural Planning and Development	3 credit hour in lecture

## 7. Published Research on Sustainability by IAU



**Search method: "imam abdulrahman bin faisal university" and Green & sustainability  
Year range 2020 – 2022 = 1300 Results**

**Figure 7-1. Published Research on Sustainability by IAU**

As in the above presented screenshot the scholarly publications on sustainability in Google Scholar has been taken from 2020-2022 with affiliations used by the authors/researchers/faculty at Imam Abdulrahman Bin Faisal University.

The sustainability events pertaining to **scholarly publications on sustainability** in the academic year **2020- 2022** are as below: -

IAU & its affiliations	GS Publications
Imam Abdulrahman Bin Faisal University	1300
Total Publication with IAU and affiliations used by its researchers	1300

**A total average per annum over the last 3 years of 1300 publications by IAU researchers**

## 8. Students' Organizations related to Sustainability

(Green University without Carbon) Under the Slogan "Towards a Sustainable Environment"



### Afforestation Initiative Led by IAU



Imam Abdulrahman bin Faisal University organizes an exhibition and awareness workshops about environmental awareness

### Environmental Awareness Exhibition and Workshops in Environment week



### IAU Launching Smart Mobility Service

Figure 8-1. Students' Activities related to Sustainability at IAU

The Students of the Department of Environmental Architecture at College of Architecture and Planning of IAU Participated in the Development of the External Spaces of the Housing units of Wahat-Mada in Dammam,



**Department of Environmental Architecture at IAU Develop Wahat-Mada Housing**



**265 Students Start their Academic Talent Program 'Mawhiba' at IAU**



**IAU Signs an Agreement to Prepare Pharmacy Students for Labor Market**

**Figure 8-2. Students' Activities related to Sustainability at IAU**



**STRIVE Prep Grants a Saudi Graduate the Title of "Ambassador of Education"**



**IAU Academic Talent Program 'Mawhiba' Concludes its Work**



**The College of Science Holds the Scientific Posters Exhibition 1444 AH**

**Figure 8-3. Students' Activities related to Sustainability at IAU**



**Coffee, Paper and More**



**"Aman" Awareness Initiative in Eastern Schools**



**The University Launches " University's Joud " Competition for Volunteering Teams**

**Figure 8-4. Students' Activities related to Sustainability at IAU**



The College of Designs at IAU Launches CODEX 23



The "Star Leaders" Summer Program with Local and International Partnerships



IAU Celebrate the First Batch of the Admin. Communication Skills Diploma for Deaf

Figure 8-5. Students' Activities related to Sustainability at IAU



**Career Day for Nursing Graduates 2022**



**IAU Announces the Winners of the “Poetic Creativity Award 2023”**



**Launching Student Clubs and Student Council Elections Announcement**

**Figure 8-6. Students' Activities related to Sustainability at IAU**

 <p>رؤية 2030 جامعة الإمام عبد الرحمن بن فيصل Vision 2030 Club</p>	 <p>نادي الإسكان الطلابي STUDENT HOUSING CLUB</p>	 <p>نادي بدر BADIR CLUB</p>	 <p>نادي الغزالة ALGAWALA CLUB</p>
 <p>النادى الثقافى Thaqaafi Club</p>	 <p>نادى الرياضة THE SPORT CLUB</p>	 <p>Scholarships Students Club نادى طلاب المنحة Scholarships Student Club</p>	 <p>نادى المسرح Theatre Club</p>
 <p>نبراس NEBRAS CLUB</p>	 <p>نادى نزهة Nazaha Club</p>		 <p>منتدى القراء READERS CLUB</p>
 <p>شيم People of Determination Club</p>	 <p>نادى التصوير الطلابي PHOTOGRAPHY CLUB</p>	 <p>نادى الاعلام والعلاقات العامة Information and Student Relations Club</p>	 <p>النادى الصحى HEALTH CLUB</p>
<p>Logos of public student clubs at Deanship of Student Affairs</p>			

Figure 8-7. IAU Students' Clubs Logos

### Description:

The student organization called as clubs' functions under the Deanship of Student Affairs, there are several clubs out of which 36 clubs are working for sustainability issues in the campus and for the community.

Years	Student Clubs/Organizations related to sustainability	Total number
2019	Bader Club Media and Student Relations Club Scholarship Students Club Student housing club Theater club	5
2020	Hmm club Nebras Club Readers Club Nazahah Club Vision 2030 Club Thaqafiu Club	6
2021	Health Club Fitness for Everyone CLUB IAU Community Sports Club Indoor Game Club Environment Club Drama Club Planting Tree Club	7
2022	Development Club Digital Club (Tele) Deem Club for Training and Volunteering Afaneen Club Wasm Club We Read Club Ghaim Club Vision Club	8
2023	Sports and Health Club Anamel Club Tanweel Club for female students Toastmaster Club Leadership Club Awrag Club Al Noreen Club Sona Club Determination Club Light Club	10
<b>Total Clubs/Organizations related to Sustainability in IAU</b>		<b>36</b>

## 9. Sustainability Community Services at IAU

Table 9-1. Sustainability Community Services at IAU

#	Events	Type of Event	Description	Place/ Participants
1	Afforestation Initiative Led by IAU	Awareness Campaign	Imam Abdulrahman bin Faisal University launched (Green University without Carbon Initiative) aiming to plant thousands of seedlings and trees with participation of IAU employees and students in Campaigns for mass afforestation in the university areas over Dammam, Khobar, Qatif and Jubail, to reduce carbon emissions, as the first initiative of its kind at the level of universities in the Kingdom, to consolidate the concept of sustainability inside campuses at the level of the local community.	Employees and Students
2	Exhibition and awareness workshops about environmental awareness in Environment week	Exhibition and awareness workshops	Imam Abdulrahman bin Faisal University organizes this event and It is participating in the activities of the Saudi Environment Week, which was launched under the generous patronage of His Royal Highness Prince Saud bin Nayef bin Abdulaziz Al Saud, Governor of the Eastern Province, under the slogan "Our environment is our Responsibility" organized by the branch of the Ministry of	Community members and Specialists, IAU

			Environment, Water and Agriculture in Al Khobar Corniche. IAU wing displays patents obtained by university affiliates, including the ecological tree to produce electric power and air purification, in addition to a patent for use of green plants treated with nano-titanium oxide to get rid of air pollutants.	
3	Sustainable Partnerships Conference	Conference and Exhibition	IAU participated in the Sustainable Partnerships Conference and Exhibition held at Riyadh. It showcases its research products, patents, and some innovations at the Sustainable Partnerships Conference in Riyadh.	Local and International leaders, Decision Makers, Riyadh
4	Smart Mobility Service	Inauguration Function	The President of IAU inaugurated the pilot phase of the smart mobility service for generating clean energy inside the university campus by bicycles and electric scooters through (WAYZ) application, on Al-Rakah campus. To sustain this service, there are solar-powered plants, will be operated in the next stages.	Al-Rakah campus, IAU
5	Advanced pharmaceutical services AT KFHU	Launching New service	The Department of Pharmaceutical Services at KFHU of IAU, launched a set of advanced technical	The Department of Pharmaceutical Services, KFHU, IAU

			services to provide the best services to patients to ensure the optimal use of drug in an effective and safe manner.	
6	Department of Environmental Architecture at IAU Develop Wahat-Mada Housing	Development Program	The students of the Department of Environmental Architecture at College of Architecture and Planning of IAU participated in the development of the external spaces of the housing units of <i>Wahat-Mada in Dammam</i> , one of the projects of <i>Charity Society for Orphans Care (Bena)</i> in the Eastern Region in collaboration with Development Housing. Those also presented sustainable and modern design solutions that match the nature of the social, cultural and economic population in an area of approximately 21,000 square meters.	Students, Department of Environmental Architecture, College of Architecture and Planning, IAU
7	Patent for Clean Energy	Achievement	United States Patent Office registered a patent to the Associate Professor of Organic Chemistry at IAU, Dr. Asma Al-Sharif, in field of Clean Energy for her innovative method of producing nano-sorbent material consisting of carbon nanotubes grafted with acrylic acid and an acrylamide polymer.	IAU

8	Consulting Center for Buildings Energy	Service	<p>It is a body accredited by IAU Institute of Consulting Studies to deliver training and consulting services in field of engineering related rationalization of energy consumption. Its scope of work include: i) Training, education and workshops in the areas of sustainability, green buildings and energy conservation, ii) Energy efficiency studies and audits of existing buildings, iii) Environmental and indoor air quality studies of buildings.</p>	<p>Governmental Sectors          Consultation offices and contracting companies          Training institutions          Housing and real estate appraisal sectors          Individuals and architecture workgroups</p>
9	IAU has Won Two eLearning Innovation Awards for Excellence & Innovation in Education	Award ceremony	<p>The National eLearning Center announced that Imam Abdulrahman bin Faisal University, represented by the Deanship of eLearning and Distance Learning, has won two eLearning Innovation Awards, one in the Excellence Track and the other one in the Innovation Track. The university won the excellence track for applying best practices of eLearning in its various styles as a licensed institution by the National eLearning Center. This was achieved through the project of developing training programs for</p>	IAU

			professional certifications in eLearning competencies on DO' platform.	
10	"Aman" Awareness Initiative in Eastern Schools	Awareness program	The Saudi Aramco Cybersecurity Chair at Imam Abdulrahman bin Faisal University IAU announced the launch of the 'Aman' initiative, which aims to raise awareness and reduce the dangers of technical hacks and extortion in the schools of the Eastern province. The chair harnesses all its capabilities and human resources to activate many community initiatives that aims at reducing phishing operations to which smart device users are exposed.	Students

(Green University without Carbon) Under the Slogan "Towards a Sustainable Environment"



### Afforestation Initiative Led by IAU



Imam Abdulrahman bin Faisal University organizes an exhibition and awareness workshops about environmental awareness

### Environmental Awareness Exhibition and Workshops in Environment week



### IAU Launching Smart Mobility Service

Figure 9-1. Sustainability Community Services at IAU

The Students of the Department of Environmental Architecture at College of Architecture and Planning of IAU Participated in the Development of the External Spaces of the Housing units of Wahat-Mada in Dammam,



**Department of Environmental Architecture at IAU Develop Wahat-Mada Housing**



**“Aman” Awareness Initiative in Eastern Schools**



**The College of Science Holds the Scientific Posters Exhibition 1444 AH**

**Figure 9-2. Sustainability Community Services at IAU**



United States Patent Office registered a patent to the Associate Professor of Organic Chemistry at IAU, Dr. Asma Al-Sharif, in field of Clean Energy for her innovative method of producing nano-sorbent material consisting of carbon nanotubes grafted with acrylic acid and an acrylamide polymer.

**Clean Energy Patent registered by United States Patent Office for an inventor from IAU**



**IAU has Won Two eLearning Innovation Awards for Excellence & Innovation in Education**



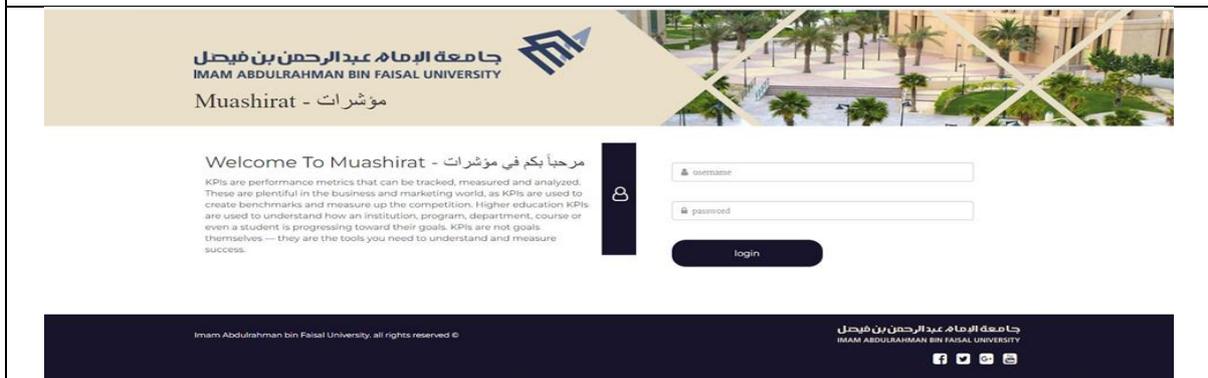
**IAU Showcases its Research Products, Patents, and Some Innovations at the Sustainable Partnerships Conference in Riyadh**

**Figure 9-3. Sustainability Community Services at IAU**

## 10. IAU's Sustainability-related Start-ups



**Estibana – Paperless online survey management system**



**Muashirat – Paperless Key performance Indicators Management system**



**Hemaya – Paperless Incidents reporting system**

**Figure 10-1. Sustainability-related Start-ups at IAU**

The Students of the Department of Environmental Architecture at College of Architecture and Planning of IAU Participated in the Development of the External Spaces of the Housing units of Wahat-Mada in Dammam,



**Department of Environmental Architecture at IAU Develop Wahat-Mada Housing**



**“Barcode” and the smart assistant are modern techniques in the pharmacy of KFHU Including the delivery of medicine to the patient's home across the Kingdom**

جامعة الإمام عبد الرحمن بن فيصل  
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY

Home / Administration / Centers / Institute of Consulting Studies / Services / Experience Houses / Consulting Center for Buildings Energy

**Institute of Consulting Studies**

**Consulting Center for Buildings Energy**

**About**  
It is a body accredited by IAU Institute of Consulting Studies to deliver training and consulting services in field of engineering related rationalization of energy consumption.

**Vision**  
Toward a specialized hub for consulting services and training in field of buildings energy.

**Mission**  
High quality services of innovative methods for achieving development socially, economically, and environmentally.

**Objectives**

- To invest the capabilities available at the university in terms of laboratories, simulation software, and expertise of faculty members in providing consultation services to external parties and buildings market in the field of energy consumption.
- To provide innovative and distinguished engineering solutions that reflect the university's scientific and creative position in field of buildings-energy conservation.
- To provide training courses, workshops, and training consultations for community various interested categories.
- To create training opportunities for university students to develop their capabilities through involving them in research consultation work.
- To strengthen the link with governmental and private sectors, which enhances the perspective of community service.

**Consulting Center for Buildings Energy**

**Figure 10-2. Sustainability-related Start-ups at IAU**

(Green University without Carbon) Under the Slogan "Towards a Sustainable Environment"



### Afforestation Initiative Led by IAU



Imam Abdulrahman bin Faisal University organizes an exhibition and awareness workshops about environmental awareness

### Environmental Awareness Exhibition and Workshops in Environment week



### IAU Launching Smart Mobility Service

Figure 10-3. Sustainability-related Start-ups at IAU

Home / News / IAU participates in Earth Hour by turning off buildings' lights

### IAU participates in Earth Hour by turning off buildings' lights



### IAU participates in Earth Hour by turning off buildings' lights



### IAU has Won Two eLearning Innovation Awards for Excellence & Innovation in Education



### IAU participates in the Launch of Made in Saudi Arabia Exhibition

Figure 10-4. Sustainability-related Start-ups at IAU



United States Patent Office registered a patent to the Associate Professor of Organic Chemistry at IAU, Dr. Asma Al-Sharif, in field of Clean Energy for her innovative method of producing nano-sorbent material consisting of carbon nanotubes grafted with acrylic acid and an acrylamide polymer.

**Clean Energy Patent registered by United States Patent Office for an inventor from IAU**



**“Aman” Awareness Initiative in Eastern Schools**



**IAU Showcases its Research Products, Patents, and Some Innovations at the Sustainable Partnerships Conference in Riyadh**

**Figure 10-5. Sustainability-related Start-ups at IAU**

## 11. IAU's Initiatives for Online Learning



**IAU has Won Two eLearning Innovation Awards for Excellence & Innovation in Education**

جامعة الإمام عبد الرحمن بن فيصل  
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY  
مؤشرات - Muashirat

Welcome To Muashirat - مرحباً بكم في مؤشرات

KPIs are performance metrics that can be tracked, measured and analyzed. These are plentiful in the business and marketing world, as KPIs are used to create benchmarks and measure up the competition. Higher education KPIs are used to understand how an institution, program, department, course or even a student is progressing toward their goals. KPIs are not goals themselves — they are the tools you need to understand and measure success.

username  
password  
login

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**Muashirat – Paperless Key performance Indicators Management system**

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IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY

You are logged in  
Log out

Home Surveys QMD Reports Qme Assistant HOD Setup Teacher's Program Analysis & Results Search

Welcome to Estibana

هنا موقع استبانة، للتقييم والاستبيانات  
اضغط بالماوس/الفأرة على احد الاختبارات اعلاه

شاهد الفيديو الخاص بالاختبار والاستبيان

Watch on YouTube

**Estibana – Paperless online survey management system**

**Figure 11-1. IAU's Initiatives for Online Learning**



**“Aman” Awareness Initiative in Eastern Schools**



**Teaching and Learning Exhibition TLEX23 and Closing Ceremony of the Professional Fellowship in University Teaching and Learning PFUTL 2023**



**Fourteen Faculty Members Win the Taj Award under Active Learning Practices and Graduate Attributes**

**Figure 11-2. IAU's Initiatives for Online Learning**



**Anthology Impact Award 2023 by Deanship of E-Learning and Distance Learning**



**IAU Concludes its Participation in the Education International Conference**



**“Scientific Research and Innovation Day” at College of Medicine of IAU**

**Figure 11-3. IAU's Initiatives for Online Learning**

## 12. Conclusion

As it is evident from Sustainability Report 2022-2023, IAU is active in executing necessary steps to make its campus more environmentally friendly, implementing a series of sustainability measures with the support of its stakeholders, especially volunteer students and faculty members. The sustainable effort of IAU is obvious from the sustainability modules introduced across different programs.

IAU has taken various sustainability initiatives:

- Using solar panels to generate solar energy and use it for various purposes like signage boards, etc.,
- Recycling 100 percent of its organic and inorganic waste.
- Offering E-Scooters for staff and students. This initiative reduces greenhouse gas emissions by encouraging riders to use sustainable transportation methods.
- Planting trees in IAU campus with the involvement of students and staff to make Green University without Carbon under the slogan "Towards a Sustainable Environment"
- Utilizing electricity saving equipment to avoid wastage of energy.

The aim of these initiatives is to reduce the university's carbon emissions and create a Green University Campus. IAU is also considering a major sustainability-led campus renovation project which will help improve the students' experience.

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