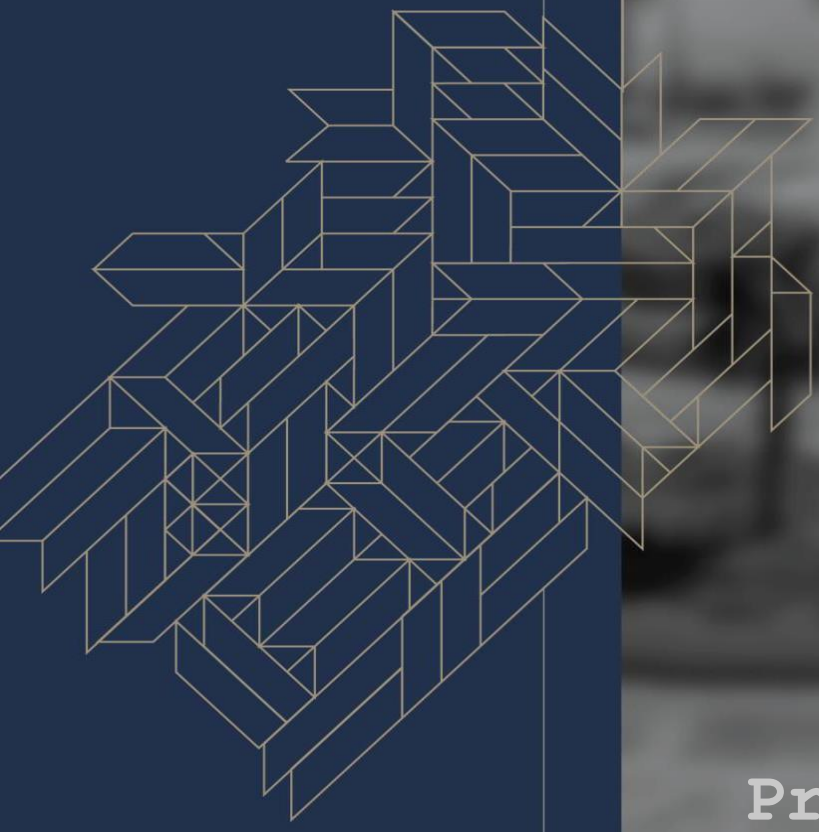
جامعة الإمام عبدالرحمن بن فيصل
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY
عمادة خدمة المجتمع والتنمية المستدامة
Deanship of Community Service and Sustainable Development



SDG 6.5.5

Promoting Conscious Water Usage on Campus 2023-2024

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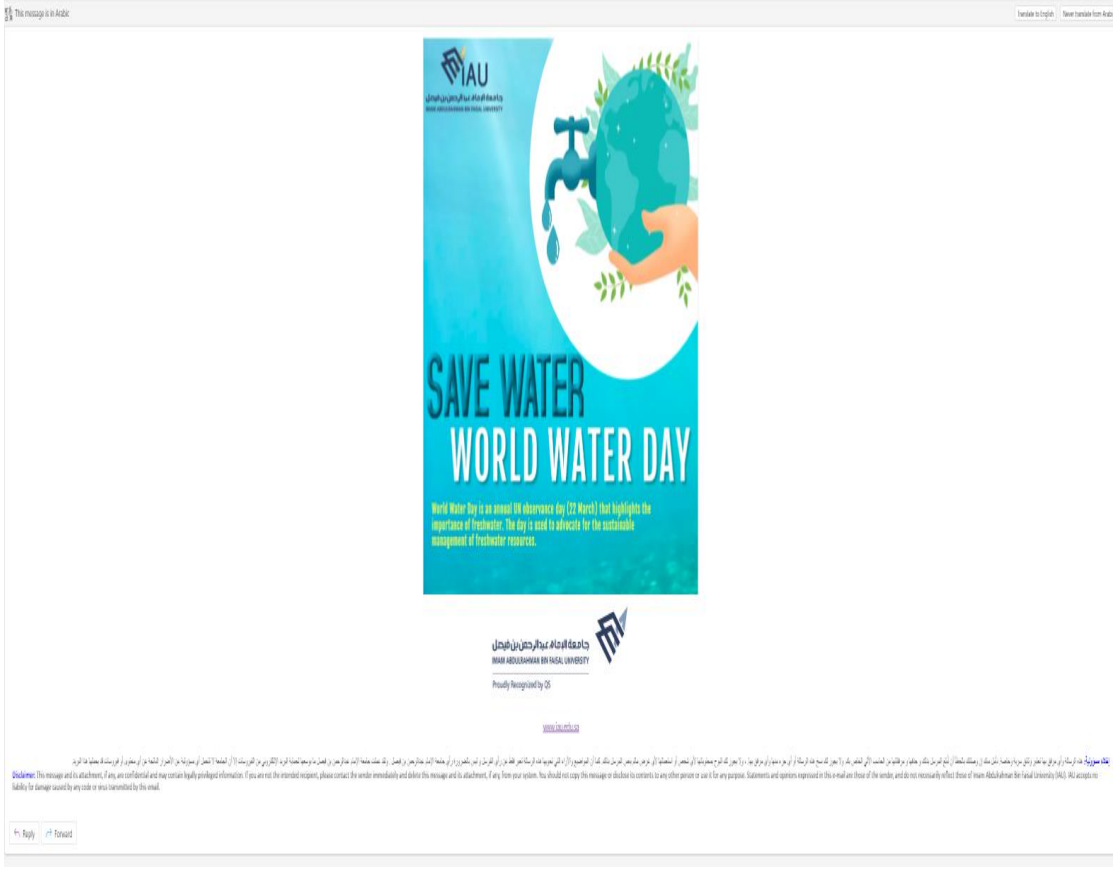
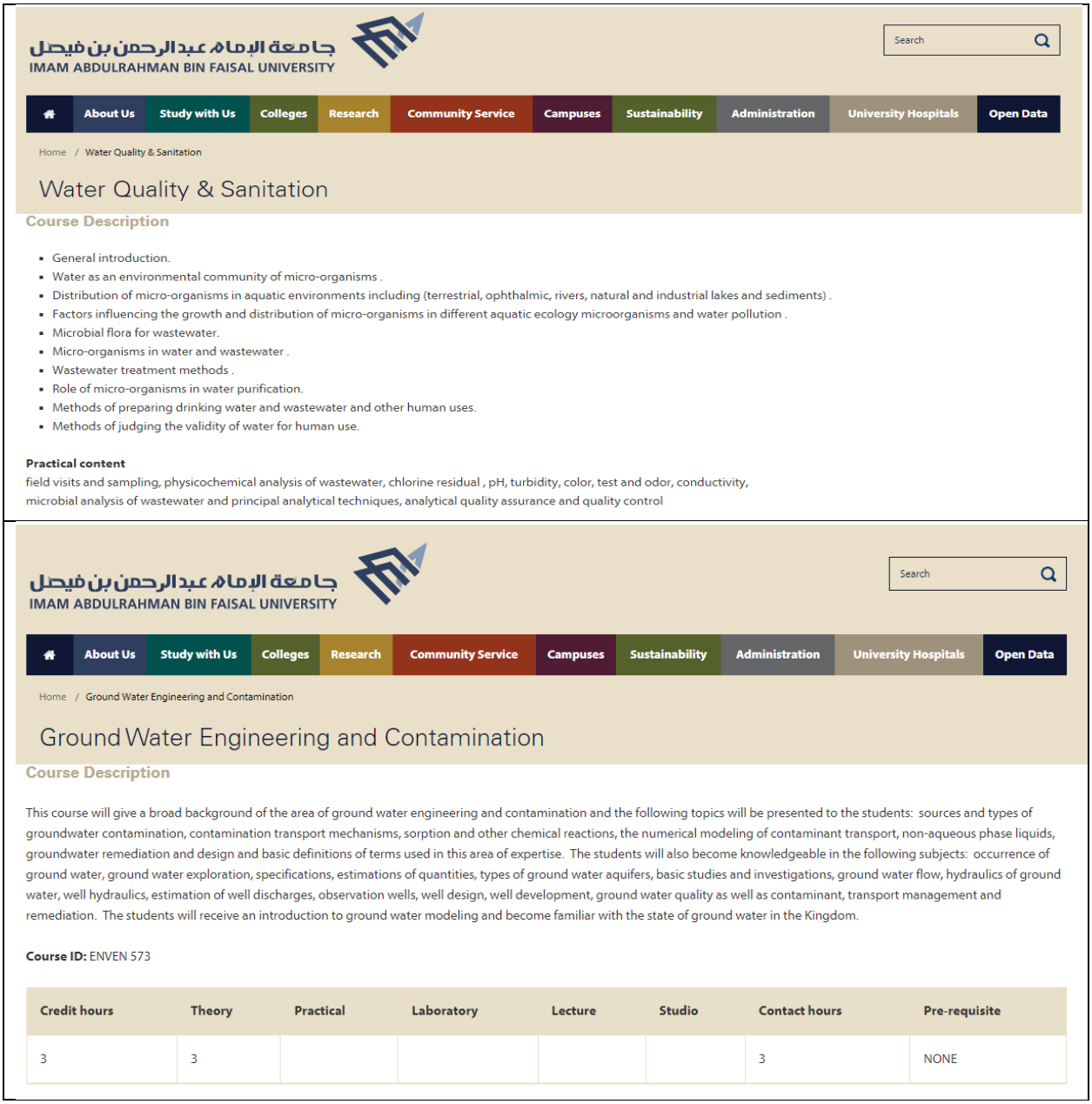
1. Creating Awareness among IAU Staff and Students to save Water



IAU circular for conservation of water

2. IAU offered Water related courses to Student Community



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Home / Water Quality & Sanitation

Water Quality & Sanitation

Course Description

- General introduction.
- Water as an environmental community of micro-organisms .
- Distribution of micro-organisms in aquatic environments including (terrestrial, ophthalmic, rivers, natural and industrial lakes and sediments) .
- Factors influencing the growth and distribution of micro-organisms in different aquatic ecology microorganisms and water pollution .
- Microbial flora for wastewater.
- Micro-organisms in water and wastewater .
- Wastewater treatment methods .
- Role of micro-organisms in water purification.
- Methods of preparing drinking water and wastewater and other human uses.
- Methods of judging the validity of water for human use.

Practical content

field visits and sampling, physicochemical analysis of wastewater, chlorine residual , pH, turbidity, color, test and odor, conductivity, microbial analysis of wastewater and principal analytical techniques, analytical quality assurance and quality control

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Home / Ground Water Engineering and Contamination

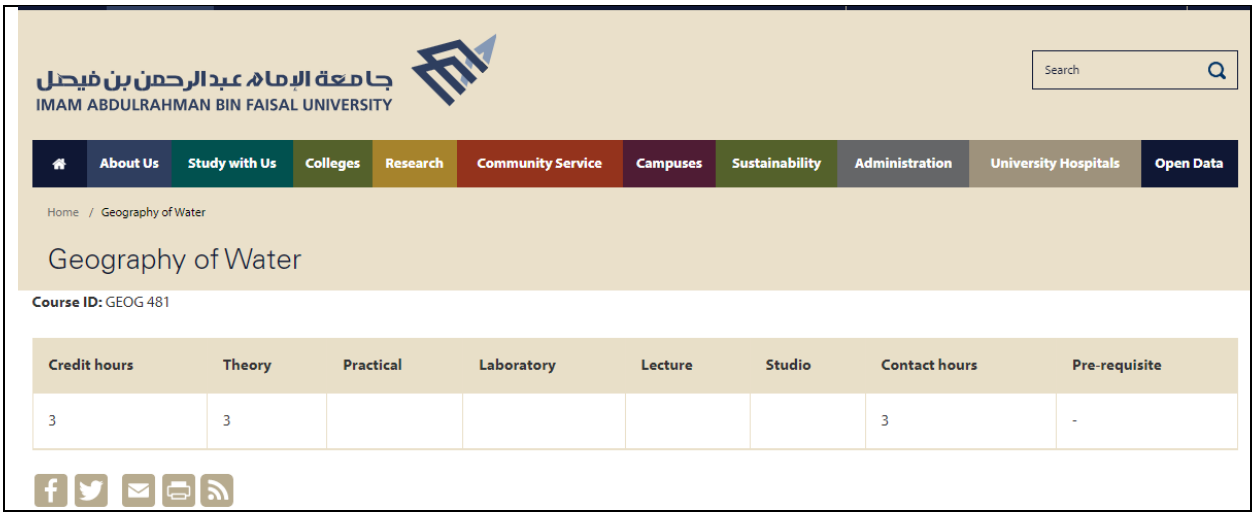
Ground Water Engineering and Contamination

Course Description

This course will give a broad background of the area of ground water engineering and contamination and the following topics will be presented to the students: sources and types of groundwater contamination, contamination transport mechanisms, sorption and other chemical reactions, the numerical modeling of contaminant transport, non-aqueous phase liquids, groundwater remediation and design and basic definitions of terms used in this area of expertise. The students will also become knowledgeable in the following subjects: occurrence of ground water, ground water exploration, specifications, estimations of quantities, types of ground water aquifers, basic studies and investigations, ground water flow, hydraulics of ground water, well hydraulics, estimation of well discharges, observation wells, well design, well development, ground water quality as well as contaminant, transport management and remediation. The students will receive an introduction to ground water modeling and become familiar with the state of ground water in the Kingdom.

Course ID: ENVEN 573

Credit hours	Theory	Practical	Laboratory	Lecture	Studio	Contact hours	Pre-requisite
3	3					3	NONE



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Home / Geography of Water

Geography of Water

Course ID: GEOG 481

Credit hours	Theory	Practical	Laboratory	Lecture	Studio	Contact hours	Pre-requisite
3	3					3	-

Hydrogeography

Course Main Objective

Learn about how water exists in nature and its importance in dry environments through learning about its limited resources and problems a matter which helps form positive trends towards these problems and reduce water loss; realize role played by the Kingdom to develop the available resources and provide other unconventional resources.

Course Learning Outcomes

- 1. Knowledge and Comprehension
- 1.1 Identify the relation between hydrogeography and other sciences and the hydrologic cycle and the various resources of water and how to preserve.
- 2. Skills
- 2.1 Prove their knowledge of the human factors affecting water use and how to preserve it.
- 2.2 Use computer technology, the statistical programs to perform some group and individual works.
- 3. Values
- 3.1 Appreciate teamwork and community responsibility.

Course Content:

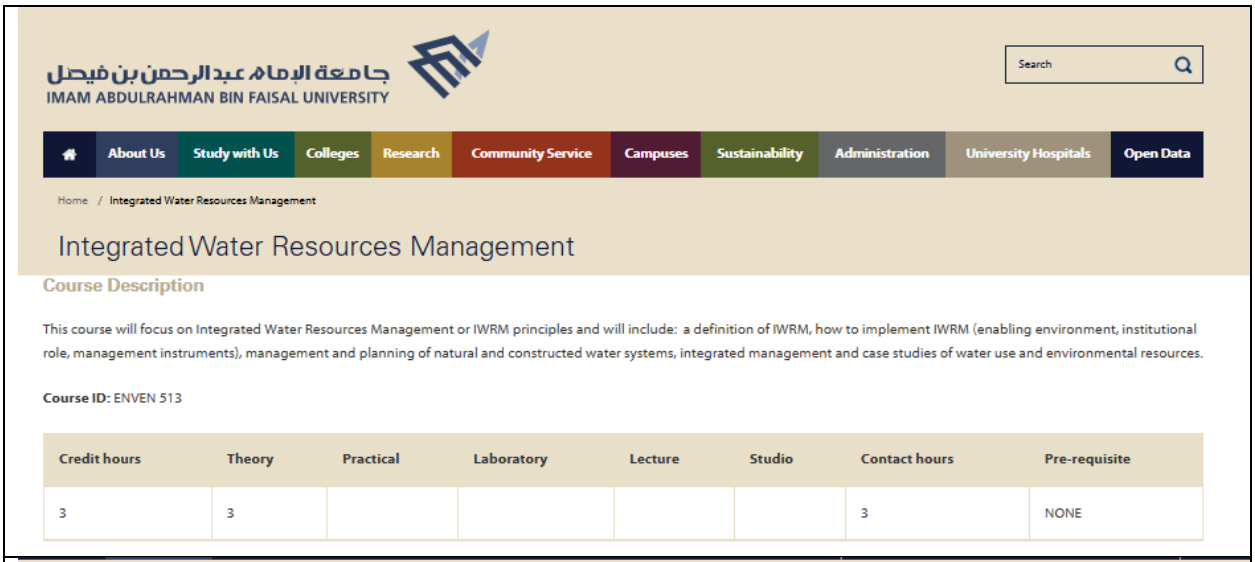
- First topic: an introduction to geography of water resources- amount of water and the hydrologic cycle.
- Second topic: precipitation (types, analysis, distribution).
- Third topic: full management of water under the sustainable development.
- Fourth topic: water in the Arab world in general and the international water conflicts.
- Fifth topic: water resources in Kingdom of Saudi Arabia.

Textbook (s)

- Al-Zouka, Muhammad.Kh. (2015). Hydrogeography. Dar Almarefa, Alexandria.
- Jouda, Fathy.A. (2005). Geography of Water Resources: A Contemporary Study in Basics and Application. 1sted. Saudi House for Publishing, Riyadh.

Course ID: GEOG 451

Credit hours	Theory	Practical	Laboratory	Lecture	Studio	Contact hours	Pre-requisite
2	2					2	-



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Home / Integrated Water Resources Management

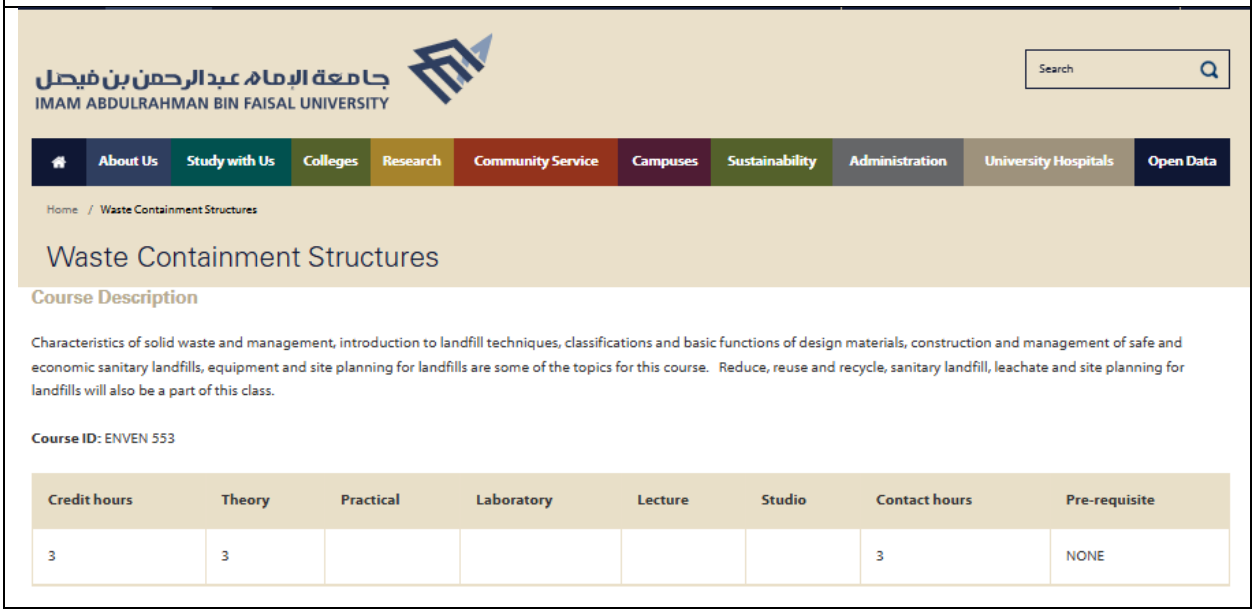
Integrated Water Resources Management

Course Description

This course will focus on Integrated Water Resources Management or IWRM principles and will include: a definition of IWRM, how to implement IWRM (enabling environment, institutional role, management instruments), management and planning of natural and constructed water systems, integrated management and case studies of water use and environmental resources.

Course ID: ENVEN 513

Credit hours	Theory	Practical	Laboratory	Lecture	Studio	Contact hours	Pre-requisite
3	3					3	NONE



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Home / Waste Containment Structures

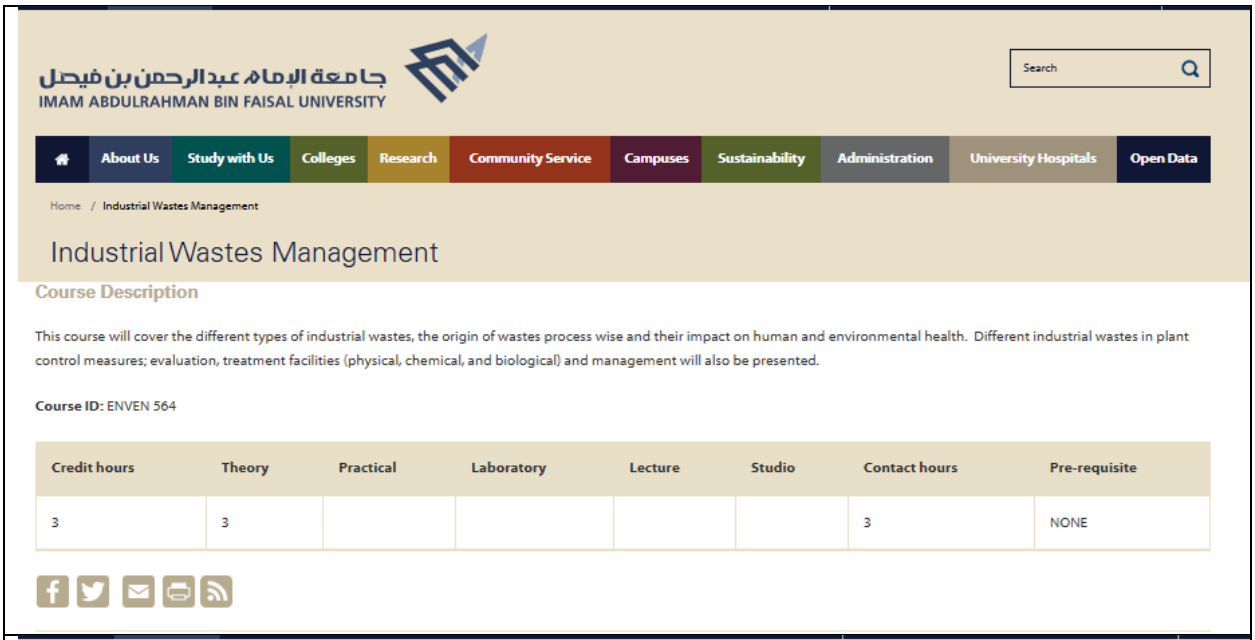
Waste Containment Structures

Course Description

Characteristics of solid waste and management, introduction to landfill techniques, classifications and basic functions of design materials, construction and management of safe and economic sanitary landfills, equipment and site planning for landfills are some of the topics for this course. Reduce, reuse and recycle, sanitary landfill, leachate and site planning for landfills will also be a part of this class.

Course ID: ENVEN 553

Credit hours	Theory	Practical	Laboratory	Lecture	Studio	Contact hours	Pre-requisite
3	3					3	NONE



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Home / Industrial Wastes Management

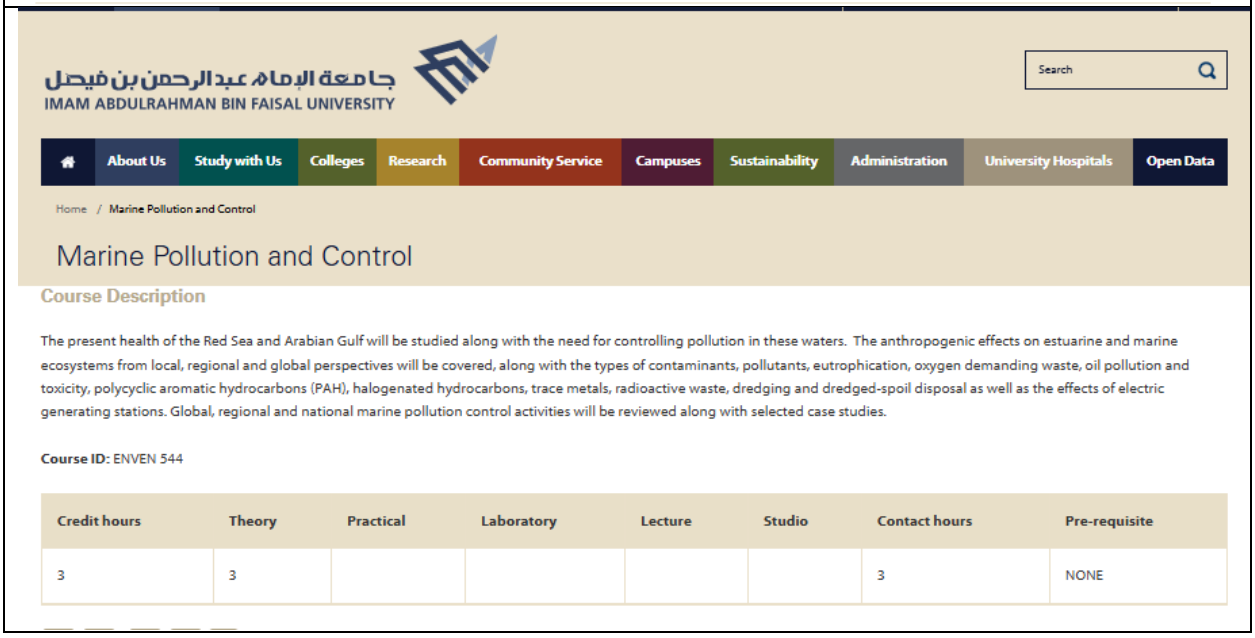
Industrial Wastes Management

Course Description

This course will cover the different types of industrial wastes, the origin of wastes process wise and their impact on human and environmental health. Different industrial wastes in plant control measures; evaluation, treatment facilities (physical, chemical, and biological) and management will also be presented.

Course ID: ENVEN 564

Credit hours	Theory	Practical	Laboratory	Lecture	Studio	Contact hours	Pre-requisite
3	3					3	NONE



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Home / Marine Pollution and Control

Marine Pollution and Control

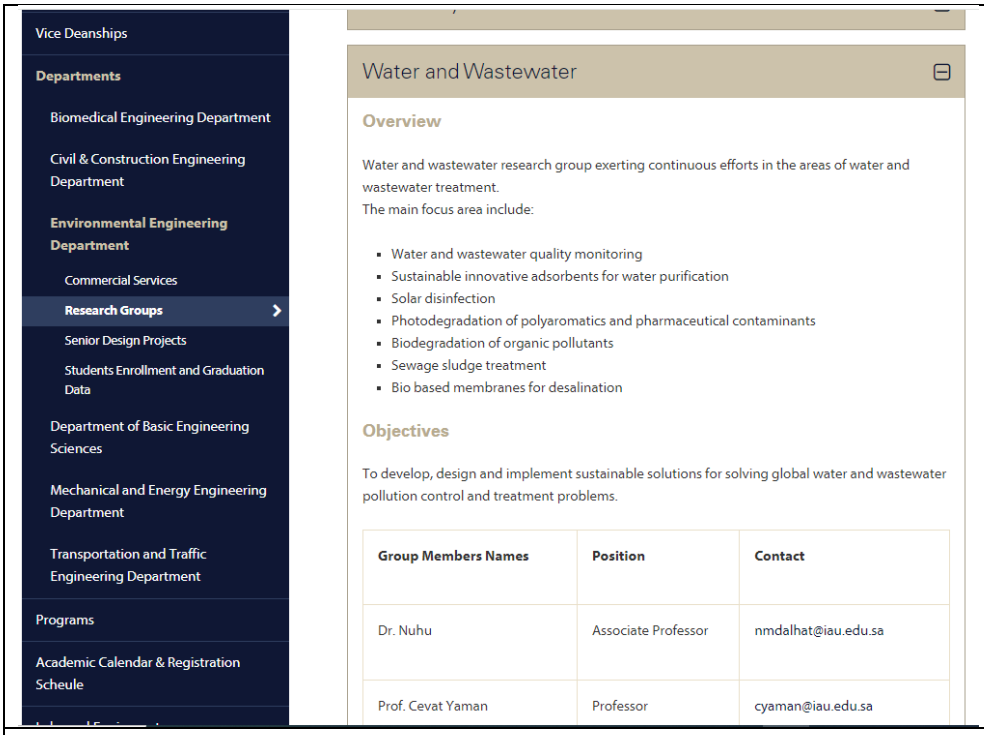
Course Description

The present health of the Red Sea and Arabian Gulf will be studied along with the need for controlling pollution in these waters. The anthropogenic effects on estuarine and marine ecosystems from local, regional and global perspectives will be covered, along with the 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 as well as the effects of electric generating stations. Global, regional and national marine pollution control activities will be reviewed along with selected case studies.

Course ID: ENVEN 544

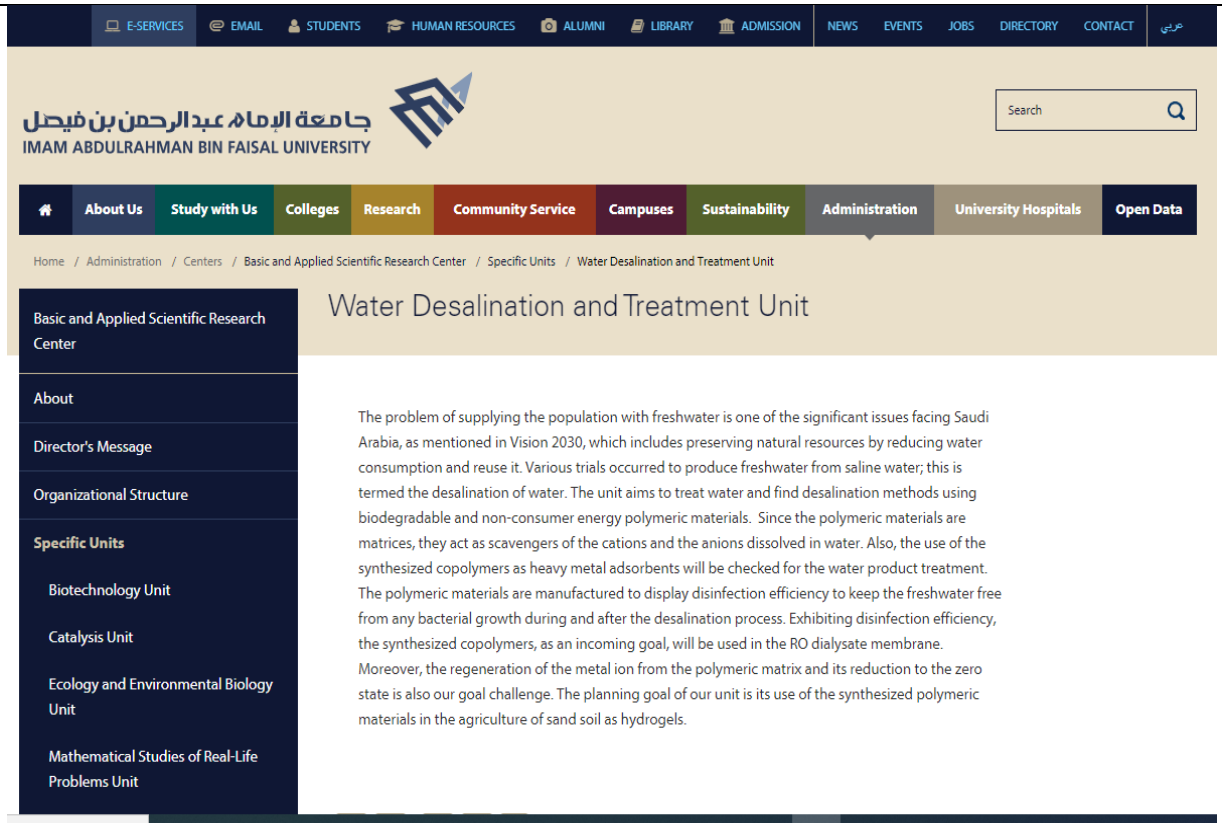
Credit hours	Theory	Practical	Laboratory	Lecture	Studio	Contact hours	Pre-requisite
3	3					3	NONE

3. Research Groups of IAU for Water and Wastewater



https://www.iau.edu.sa/en/colleges/college-of-engineering/departments/environmental-engineering-department/research-groups

4. Water Desalination and Treatment Unit of IAU



Water Desalination and Treatment Unit

The problem of supplying the population with freshwater is one of the significant issues facing Saudi Arabia, as mentioned in Vision 2030, which includes preserving natural resources by reducing water consumption and reuse it. Various trials occurred to produce freshwater from saline water; this is termed the desalination of water. The unit aims to treat water and find desalination methods using biodegradable and non-consumer energy polymeric materials.

https://www.iau.edu.sa/en/administration/centers/basic-and-applied-scientific-research-center/specific-units/water-desalination-and-treatment-unit