

# Life below Water

# LIFE BELOW WATER

Healthy oceans and seas are very important to our healthy life and a healthy environment. Although this aquatic space is covering 70 percent of our planet, humankind is damaging these precious resources of water, food, and energy by polluting them. It is the responsibility of every one of us to protect all marine life around the world.

The academic institutions and academia can play an important role in raising awareness and conducting campaigns to stop harming the aquatic space. The research should target reducing the pollution and restoring the ecosystem by reducing ocean acidification and this is done through cooperation at all levels. Joint efforts should be put to reduce and to regulate overfishing.

The University should encourage scientific research, knowledge, and technology to protect oceans and seas health. The implementation of sea law and the introduction of the sea law in the law curricula will help tremendously to raise awareness among the younger generation to be conscious of the bad effects on our lives in an unhealthy ecosystem. Healthy oceans, clean water, and preserved aquatic resources are essential to living better and to stay healthy

## Research and Data Collection

Researchers at PSU have conducted research related to marine life, sustainable fisheries, ocean health, and other relevant topics and have collected data on the state of local marine ecosystems and the impact of human activities. Here are some of the published research papers from PSU authors on SDG 14.



Research Article | Published: 04 June 2022

## Influence of graphene oxide on the toxicity of polystyrene nanoplastics to the marine microalgae *Picochlorum* sp.

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### Abstract

Graphene oxide (GO) features distinctive physical and chemical characteristics; therefore, it has been intensively investigated in environmental remediation as a promising material for clean-up of soil contamination and water purification and used as immobilization material. Plastic is a widespread pollutant, and its breakdown products such as nanoplastics (NPs) should be evaluated for potential harmful effects. This study is aimed to evaluate the influence of GO on the toxicity of polystyrene (PS) NPs to the marine microalgae *Picochlorum* sp. over a period of 4 weeks. The capability of GO to reduce the toxic effects of PS NPs was assessed



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## Performance Evaluation of Routing Protocols for Underwater Wireless Sensor Networks

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SUSTAINABLE DEVELOPMENT GOALS

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2030  
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KINGDOM OF SAUDI ARABIA



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ELSEVIER



# Ocean responses to Shaheen, the first cyclone to hit the north coast of Oman in 2021

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<https://doi.org/10.1016/j.dynatmoce.2023.101358> 

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## Adsorption of Cr(VI) by Mesoporous Pomegranate Peel Biowaste from Synthetic Wastewater under Dynamic Mode

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Versions Notes



## Educational Programs

Following are a few of the educational programs related to environmental conservation and sustainable management of water.



### **CEE 447 Groundwater Engineering**

Fundamental science of hydrogeology, the study of the distribution and movement of water through geologic formations, i.e. soil, sediments, and rocks. The mathematical models of fluid flow in porous media and methods for solving these equations (e.g., analytical, numerical, and statistical approaches). Practical groundwater engineering problems: characterizing the subsurface using aquifer tests, transport and remediation of contaminants, and innovations in groundwater management, as time permits.

Credits: 3 (3,0,0) Prerequisite: CEE 341



### **CEE 442 Environmental Management**

This course surveys the scientific principles of environmental issues and environmental management practices, with attention to the health of both humans and the ecosystem. Fundamental and emerging topics related to air and water pollution, water use and management, aquatic ecosystems, energy and climate change, biodiversity, toxic substances in the environment, solid waste management, and regulatory strategies for risk assessment and environmental management are examined. The course will critically examine contemporary thinking on these environmental themes including: sustainable use practices, political-ecology, decentralized environmental management, and community-based approaches, social learning, and regional and urban planning.

Credits: 3 (3,0,0) Prerequisite: Senior Level Standing

# PSU's commitment to SDG 2030

## Mission

PSU is committed to United Nations Sustainable Development Goals (SDGs) through effective institutional resource management, innovative teaching and learning, research, national and international partnerships, continuous studies, and outreach. PSU shall undertake the following activities: form higher and steering committees, evaluate each SDG, formulate and develop related SDG policies, conduct awareness campaigns to the PSU community, establish a sustainability office, identify the SDGs related to each college, program, and course, and lab centers at PSU, and implement sustainability-related initiatives.

## Vision

Prince Sultan University strives to support Saudi Arabia's Vision 2030 and the United Nations Sustainable Development Goals (SDGs) by paving the way for higher education in KSA and Middle East.

## Mission

Supporting the Saudi Arabia's Vision 2030 and the PSU's strategic directions, PSU aligns its mission with SDGs by providing quality education, sustainability initiatives, lifelong learning, scientific research, and community service



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