

Courses Description

College: Prince El- Hassan Bin Talal For Natural Resources & Environment

Department: Water & Environment Management

Course ID: 803324 **Description:** Water Chemistry

Full Course Description:

Course ID: 1203100 **Description:** Principles of Environmental Science

Full Course Description: Earth structure and spheres, natural ecosystems, structure of ecosystems, energy flow in ecosystem, biogeochemical cycles, population dynamics, human population, natural resources: water, energy and mineral resources, water pollution, air pollution, soil pollution.

Course ID: 1203101 **Description:** Sustainable Development

Full Course Description: This course provides a holistic, cognitive ,and integrative to better understand sustainable development,and forms the nucleus and reference which the students from different disciplines & levels can use.

The course is divided into four parts.The first part presents the basic concepts of sustainable development,its requirements,strategies & indicators. The remaining three parts review the three dimensions of sustainable development: The environmental,the socila,and the economic.

The course focuses on Jordan.It reviews the uurent of enviromntal,social,and economic situation in Jordan,and the requirements & strategies for sustainable development from a local perspective.

Course ID: 1203220 **Description:** Surface Water Hydrology

Full Course Description: Elements of hydrologic cycle, precipitation, spatial and temporal distribution of rainfall, measurements and instruments for measuring precipitation, evaporation from free water bodies, transpiration from vegetation, evapotranspiration, infiltration, infiltration models, stream flows, measurements of stream flows, surfaces runoff, hydrographs, unit hydrograph, statistical analysis in hydrology, movement and distribution of groundwater and its relation to surface hydrology. Application aspects on environmental hydrology.

Course ID: 1203221 **Description:** Applied Fluid Mechanics

Full Course Description:

Course ID: 1203231 **Description:** Environmental Science

Full Course Description: Defining the environment, the ecosystem and its characteristics, as well as material and energy flow, population dynamics and its influence on the environment, dynamics of human population, water, soil and energy resources and tools to manage those resources. Students will also become more oriented to the environmental pollution of water, air, soil and noise pollution and environmental impact assessment.

Course ID: 1203251 **Description:** Environmental Statistics

Full Course Description: Discrete and continuous probability distributions, tests of significance, confidence intervals, environmental monitoring, impact assessment and it will deal with techniques to handle data correlated in space and time, time series analysis, spatial data analysis and using Geographic Information System.

Course ID: 1203261 **Description:** Meteorology

Full Course Description: Structure of the atmosphere, temperature & heat transfer, moisture content of the atmosphere, dew temperature, frost temperature, clouds, air masses, fronts, cyclones, and anti-cyclones.

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Course ID: 1203311 **Description:** Solid Waste Management

Full Course Description: Concepts and principles applied to the management of municipal solid waste (MSW), regulatory aspects and hierarchy of integrated solid waste management; characterization and properties of MSW; municipal wastewater sludge utilization; hazardous waste found in MSW; collection, transfer, and transport of solid waste; separation, processing, combustion, composting, and recycling of waste material; the landfill method of solid waste disposal which encompasses guidelines for design, construction, operation, sitting, monitoring, remedial actions, and closure of landfills.

Course ID: 1203320 **Description:** Water Chemistry

Full Course Description: The properties of the water molecule, its chemical and physical characteristic, chemical reactions and equilibrium, principles of thermodynamics acid-base reactions, mineral equilibrium. The course discusses redox reactions, water genesis, chemical, physical and biological analysis, and water quality standards. Field and lab applications.

Course ID: 1203321 **Description:** Surface Water Hydrology

Full Course Description:

Course ID: 1203322 **Description:** Groundwater Hydrology

Full Course Description: The hydrologic cycle, properties of aquifers: porosity, permeability, transmissivity, storativity, principles of groundwater flow equations, soil moisture and groundwater recharge, groundwater flow to wells. Also the course discusses wells hydraulics and aquifer testing, ground water resources in Jordan.

Course ID: 1203323 **Description:** Water Chemistry

Full Course Description:

Course ID: 1203331 **Description:** Health Safety & Environment

Full Course Description: Methods of dealing and handling hazardous substances inside and outside facilities and its impact on the human health and the environment, mitigation measures that must be taken to reduce environmental and health impacts, the roll of media to promote the awareness level among employees and local community, complying with national and international standards and guidelines such as OSHA and EPA.

Course ID: 1203332 **Description:** Environmental Management Systems

Full Course Description: The importance of the environment management systems for the industries, ISO as a reference point in the global economic competition, requirements that are necessary to succeed in the global market including environmental auditing, environmental systems, environmental systems measures and preparing environmental reports.

Course ID: 1203333 **Description:** Environmental Monitoring

Full Course Description:

Course ID: 1203334 **Description:** Water & Environmental Economics

Full Course Description:

Course ID: 1203335 **Description:** Environmental Policy & Global Treaties

Full Course Description: Environmental protection and legislation in relation to population growth control, administrative laws in environment including laws for protection of air, water, food, soil, and for control of noise, light and radiation hazard.

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Course ID: 1203341 **Description:** Water Microbiology

Full Course Description: Microbial populations in water, classification and cultivation, microbial nutrition requirements, isolation and transfer techniques, enumeration, metabolism, and control of microbial growth and water- borne diseases, indicator microorganisms and the role of microbes in water pollution control and environmental health.

Course ID: 1203411 **Description:** Hazardous Waste Management

Full Course Description: Engineering principles of hazardous waste management, basic concepts, terminology, properties and behavior of hazardous wastes (toxicity, reactivity, corrosivity and flammability), proper management practices, risk assessment, site remediation technologies and processes of disposal practices according to national and international standards, design of proper treat, strong and disposal faille's TSD and methods.

Course ID: 1203412 **Description:** Planning & Water Resources Management

Full Course Description:

Course ID: 1203420 **Description:** Industrial Wastewater Management

Full Course Description:

Chemical and physical properties of industrial water, impact of industrial wastewater on water bodies and the environment, minimizing industrial wastewater effluent volume through modification, reduction and recycling processes, pre-treatment standards, reuse of industrial water, application of quality control in regard to selected industries and, finally, industrial wastewater technology processes.

Course ID: 1203421 **Description:** Wastewater Treatment

Full Course Description: Wastewater characteristics (physical, chemical and biological), wastewater treatment objectives and the different types of treatment processes, biological treatment processes including, activated sludge and the trickling filter processes, standards of water quality.

Course ID: 1203422 **Description:** Reuse of Reclaimed Water

Full Course Description:

Course ID: 1203423 **Description:** Industrial Wastewater Management

Full Course Description: Chemical and physical properties of industrial water, impact of industrial wastewater on water bodies and the environment, minimizing industrial wastewater effluent volume through modification, reduction and recycling processes, pre-treatment standards, reuse of industrial water, application of quality control in regard to selected industries and, finally, industrial wastewater technology processes.

Course ID: 1203424 **Description:** Treatment of Drinking Water

Full Course Description: Physical, chemical and biological characteristics of drinking water, water contaminants, physical, chemical and biological treatment methods includes coagulation, flocculation, sedimentation, filtration, disinfections, softening, removal of taste and odor.

Course ID: 1203425 **Description:** Integrated Water Resources Management

Full Course Description: The concept of integrated water resources management (IWRM), IWRM principals, basics of water management, how IWRM is applied and practiced the legislative framework of the IWRM, the institutional framework of the IWRM, application of IWRM in agriculture, environment water supply and waste water process.

Course ID: 1203431 **Description:** Environmental Impact Assessment

Full Course Description: Objectives and basics of the environmental impact assessment (EIA), monitoring the environmental components, methods used to conduct an EIA, assessment of the anthropogenic activities on the living and non-living environmental elements, the impact of the anthropogenic activity on the culture, society, and the economy, preparing an EIA report, application of EIA on a case study.

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Course ID: 1203432 **Description:** Natural Disasters Management

Full Course Description: Fundamental concepts in Natural Disasters Management, how to deal with risk, the relation with the public, strategies of crisis management, technologies used, communication ways that enable prediction and control, global challenges in crisis management.

Course ID: 1203433 **Description:** Environmental Sociology

Full Course Description: The interaction relationship between human societies and the physical environment, the concept of environmental sociology, its subject and method), the environmental consequences that are resulted from industrial, economic, and social activities, promote critical thinking of how and why environmental problems occur, how to deal with environmental problems.

Course ID: 1203434 **Description:** Environmental Concern

Full Course Description: Defining environmental concern and its components; factors influencing knowledge, skills, attitudes and behaviors toward the environment; the relationship between attitudes and behaviors; and methods and scales to measure environmental concern at different levels (local, national and global).

Course ID: 1203435 **Description:** Environmental Management

Full Course Description:

Course ID: 1203436 **Description:** Sustainable Development of Natural Resources

Full Course Description: meaning of sustainability, its requirements, types of sustainability, environmental sustainability, economic sustainability, social sustainability, meaning of development, and models of sustainability around the world, answering the questions: Is it possible to achieve sustainable development? what to sustain, why to sustain, how to sustain?

Course ID: 1203437 **Description:** Spatial Analysis & Geovisualization for the Environment

Full Course Description: How spatial techniques can be effectively applied in a geographic information systems to study spatial patterns in environment, distributions, associations, an overview of the techniques and tools designed to interactively visualize spatial phenomena using computer systems, working with maps, interactive maps, three dimensional scenes, summary charts and tables; development, integration, and visualization of spatial data for characterizing environmental systems.

Course ID: 1203451 **Description:** Computer Applications in Hydrology

Full Course Description:

Course ID: 1203461 **Description:** Air Pollution

Full Course Description:

Course ID: 1203462 **Description:** Air Pollution

Full Course Description: The nature and effects of air pollution including the structure and physical behavior of the atmosphere, types and origins of air pollutants, chemical reactions in the atmosphere, atmospheric dispersion, techniques of pollutant evaluation and surveys and effects of air pollution on health and other aspects of urban and natural environments.

Course ID: 1203470 **Description:** Special Topics

Full Course Description: Advanced topics related to water and environmental research such as environmental impact assessment of water and environmental projects, watershed management, use of GIS in hydrologic and hydrogeologic modeling, emerging issues in the global and local environmental.

Course ID: 1203481 **Description:** Energy Resources & Environment

Full Course Description: Renewable and non renewable resources, past, present, and future energy consumption patterns, fossil energy, oil, natural gas, and coal resources, biogas, nuclear energy, biomass energy, the environmental impact of fossil energy conversion including air pollution, acid rain, and global climate change.

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| Couse ID: 1203482 | Description: Radiation Protection |
| Full Course Description: | Types of radiation, radiation dose, risks of exposure to radiation and radioactive materials, radiation protection concepts, monitoring procedures, programs and policies for maintaining radiation doses as low as reasonably achievable (ALARA). |
| Couse ID: 1203490 | Description: Field Training |
| Full Course Description: | The training program will support students by facilitating the transition between academic studies and work experiences. Training program allows students to gain relevant work and technical experiance to enhance their university studies. Students get a head start on networking with professionals, defining their career goals, and developing communication and interpersonal skills. |
| Couse ID: 1203491 | Description: Seminar |
| Full Course Description: | |
| Couse ID: 1203492 | Description: Special Topics |
| Full Course Description: | |
| Couse ID: 2803100 | Description: Environmental Science |
| Full Course Description: | |
| Couse ID: 111203212 | Description: Natural Waters Geochemistry Lab |
| Full Course Description: k | |
| Couse ID: 111203213 | Description: Water Microbiology |
| Full Course Description: g | |
| Couse ID: 111203221 | Description: Principles of Environmental Management |
| Full Course Description: g | |
| Couse ID: 111203222 | Description: Environmental Policies and Legislations |
| Full Course Description: ; | |
| Couse ID: 111203254 | Description: Environmental Sociology |
| Full Course Description: h | |
| Couse ID: 111203255 | Description: Environmental & Water Economics |
| Full Course Description: [| |
| Couse ID: 111203310 | Description: Environmental Soil Physics |
| Full Course Description: ;l | |
| Couse ID: 111203314 | Description: Groundwater Modeling |
| Full Course Description: g | |
| Couse ID: 111203323 | Description: Environmental Management Systems |
| Full Course Description: g | |
| Couse ID: 111203324 | Description: Environmental Impact Assessment |
| Full Course Description: df | |
| Couse ID: 111203326 | Description: Environmental Monitoring |
| Full Course Description: yh | |
| Couse ID: 111203333 | Description: Air Pollution |
| Full Course Description: . | |

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Course ID: 111203344 **Description:** Environmental Geovisualization

Full Course Description: g

Course ID: 111203415 **Description:** Surface Water Modeling

Full Course Description: g

Course ID: 111203416 **Description:** Drinking Water Treatment

Full Course Description: i

Course ID: 111203417 **Description:** Wastewater Treatment

Full Course Description: h

Course ID: 111203418 **Description:** Water Desalinization

Full Course Description: g

Course ID: 111203425 **Description:** Environmental Auditing and Inspection

Full Course Description: ;l

Course ID: 111203427 **Description:** Air Quality Monitoring

Full Course Description: ;

Course ID: 111203428 **Description:** Water Resources Planning and Management

Full Course Description: m

Course ID: 1712031150 **Description:** Environmental Statistics

Full Course Description: g

Course ID: 1712031210 **Description:** Water Chemistry

Full Course Description: d

Course ID: 1712031230 **Description:** Water Microbiology

Full Course Description: d

Course ID: 1712031240 **Description:** Geographic Information Systems

Full Course Description: gg

Course ID: 1712031241 **Description:** Meterology

Full Course Description: gg

Course ID: 1712031250 **Description:** Environmental Science

Full Course Description: hh

Course ID: 1712031251 **Description:** Communication Skills

Full Course Description: fff

Course ID: 1712031253 **Description:** Fluid Science

Full Course Description: hh

Course ID: 1712031254 **Description:** Environmental Sociology

Full Course Description: gg

Course ID: 1712031255 **Description:** Environmental Economics

Full Course Description: gg

Course ID: 1712031310 **Description:** Groundwater Hydrology

Full Course Description: gg

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Course ID: 1712031311 **Description:** Surface Water Hydrology

Full Course Description: ggg

Course ID: 1712031312 **Description:** Water Quality

Full Course Description: hh

Course ID: 1712031313 **Description:** Treatment of Drinking Water

Full Course Description: h

Course ID: 1712031314 **Description:** Ground Water Modeling

Full Course Description: gg

Course ID: 1712031315 **Description:** Surface Water Modeling

Full Course Description: gg

Course ID: 1712031320 **Description:** Environmental Management Systems

Full Course Description: g

Course ID: 1712031321 **Description:** Occupational and Environmental Safety and Health

Full Course Description: hh

Course ID: 1712031322 **Description:** Environmental Monitoring

Full Course Description: ff

Course ID: 1712031330 **Description:** Solid & Hazardous Waste

Full Course Description: gg

Course ID: 1712031340 **Description:** Environmental Geovisualization

Full Course Description: l

Course ID: 1712031410 **Description:** Wastewater Treatment

Full Course Description: hh

Course ID: 1712031411 **Description:** Water Desalinization

Full Course Description: aaa

Course ID: 1712031412 **Description:** Water Treatment by Member Technology

Full Course Description: gg

Course ID: 1712031413 **Description:** Water Wells Drilling and Design

Full Course Description: ff

Course ID: 1712031420 **Description:** Environmental Impact Assessment

Full Course Description: hhh

Course ID: 1712031421 **Description:** Environmental Policies

Full Course Description: h

Course ID: 1712031422 **Description:** Water Resources Planning and Management

Full Course Description: g

Course ID: 1712031423 **Description:** Risk Assessment Management

Full Course Description: h

Course ID: 1712031424 **Description:** Environmental Auditing and Inspection

Full Course Description: hh

Courses Description

College: Prince El- Hassan Bin Talal For Natural Resources & Environment

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Couse ID: 1712031425 **Description:** Industrial Wastewater Management

Full Course Description: hh

Couse ID: 1712031430 **Description:** Air Pollution

Full Course Description: g

Couse ID: 1712031431 **Description:** Climate Change

Full Course Description: gg

Couse ID: 1712031432 **Description:** Surface Water Pollution

Full Course Description: ggg

Couse ID: 1712031433 **Description:** Air Quality Monitoring

Full Course Description: hh

Couse ID: 1712031450 **Description:** Field Training

Full Course Description: hh

Couse ID: 1712031451 **Description:** Special Topics

Full Course Description: g