

Master in Environmental Sciences

Courses Plan

FIRST LEVEL:

No.	COURSE No. & SYMBOL	COURSE TITLE	UNITS
1	511 ENVS	Environmental Biology	3
2	512 ENVS	Environmental Chemistry	3
3	513 ENVS	Environmental Measurements and Analysis	3
4	514 ENVS	Ecosystems and Bio-diversity	2
5	515 ENVS	Environmental Statistics	2
	Total		13

SECOND LEVEL:

No.	COURSE No. & SYMBOL	COURSE TITLE	UNITS
1	522 ENVS	Air Pollution	3
2	523 ENVS	Soil Pollution	3
3	524 ENVS	Water Pollution	3
4	525 ENVS	Environmental Toxicology (1)	3
	Total		12

THIRD LEVEL:

No.	COURSE No. & SYMBOL	COURSE TITLE	UNITS
1	531 ENVS	Computer Applications in Environmental Sciences	2
2	532 ENVS	Environmental Evaluation	2
3	533 ENVS	Environmental Economics	2
4	591 ENVS	Seminar	1
5	... ENVS	Course from list A	2
6	... ENVS	Course from list A	2
	Total		11

FOURTH LEVEL:

No.	COURSE No. & SYMBOL	COURSE TITLE	UNITS
1	... ENVS	Course from list A	2
2	599 ENVS	Research Project	4
	Total		6

531 ENVS Computer Applications in Environmental Sciences 2(0+2)

Computer Simulation of some pollution problems, Diffusion of gaseous and particulates in the air, Dispersion of thermal pollution in water, Biodiversity deterioration, Dispersion of oil pollutants in water, Movement of pollutants in seas and wadies, Movement of pollutants in soil and groundwater, Monitoring of pollutants in water networks, Using Arial photos in locating agricultural areas, Surfacewater, and groundwater.

532 ENVS Environmental Evaluation 2(2+0)

Concept of environmental evaluation, elements of environmental assessment, environmental parameters (water, air, soil, solid wastes, noise, radiation, etc.), Techniques for measuring health effects on human, benefit and cost analysis, environmental quality standards, Socioeconomic of environmental projects, Preparation of environmental impact assessments, Environmental protection laws in the Kingdom.

533 ENVS Environmental Economics 2(2+0)

Utilizing economic principles as an analytical tool to study the relationship between environmental problems and pollution control and their impact on employment growth and prices. Impact of chemical fertilizers and pesticides reduction on environmental economics of food production processes. Economical effect of environmental laws and regulation . Benefit - Cost considerations in environmental impact assessment .

551 ENVS Health and Environmental Awareness 2 (2+0)

This course gives a brief description of the diseases transferred to human by different environmental means (insects, worms, domestic animals, etc). It points out the importance of such diseases, their effects on the balance at the ecosystem and the methods adopted for their prevention. The course demonstrates the correct procedure for handling drugs, insecticides and house detergents. It involves the scientific rules for the optimal use of the different informational vehicles to clarify the hazards of different environmental toxins (car exhaust, petroleum distillates, industrial fumes,..ect). towards the public health.

553 ENVS Food Safety 2(1+1)

Food contamination related to food production and processing. Food borne pathogens and their toxic metabolites. Microbial Infections and Intoxications. Adverse Effects of Food Additives. Food Safety Regulations.

554 ENVS Environmental Toxicology (2) 2(2+0)

Toxicology of Some Important Industrial Pollutants. Toxins of Plant and Animal Origins. Movements of Industrial Pollutants through Ecosystem. Qualitative and Quantitative Assessment of Industrial Hazards and Prevention of their Toxicities. Regulations and Regulatory Agencies for Safe Use and Handling of Industrial Chemicals.

561 ENVS Industrial Pollution 2(2+0)

Source of industrial pollutions (gaseous , liquid and solid), The Basic of chemical and physical treatments of industrial pollution, Techniques for controlling industrial wastes, Recycling of industrial wastes , Transporting and storing the hazardous wastes.

562 ENVS Pollution by Pesticides and other Chemicals 2(2+0)

Chemical pollutants types. Classification of pesticides by their toxicities and mode of actions. Physicochemical characteristics of pollutants in relation to their movement in the ecosystems. Regulation of handling, use, storage of chemicals and their waste disposal.

563 ENVS Water Drainage and Waste Management 2(2+0)

Characteristics of wastewater, their collection, treatment, and reuse - Environmental impact of wastewater - Criteria for treated wastewater reuse for different purposes - Criteria for disposal of wastewater into seas and wadies - Characteristics of Agricultural drainage, their reuse, and final disposal - Characteristics of storm water, their collection, and reuse - Solid liquid and gaseous wastes - Management of different wastes - Drying, incineration, preservation, and Landfill.

564 ENVS Environmental Regulations and Policies 2(2+0)

Legislation and laws organizing quality standards of environmental components, systemic disposal of toxic substances and hazardous materials, methods of agricultural quarantine, handling of pathogens and hazardous microorganisms, national controllers of environmental protection regulations in Saudi Arabia (regulations of grazing, hunting, forest, air and water pollution, ...etc.) earth degradation protection treaties

574 ENVS Desertification and Natural Resources 2(2+0)

Concept of desertification, and its causes, aspects, signs, stages and types. Compacting desertification. Concepts of natural resources. Renewable natural resources. Non-renewable natural resources. The effect of desertification on natural resources. Sustainable development and the utilization of natural resources.

581 ENVS Environmental Meteorology 2(2+0)

The concept of climate and meteorology. Elements of climate. Meteorological stations. Meteorological instrumentations (kinds and measurement). Collection and processing of meteorological data. The relationships between climatic elements and natural phenomenon and effects of climate on environments.

591 ENVS Seminar 1(0+1)

Term paper and group discussion in one of environmental fields under the supervision of one of the staff members .

599 ENVS Research Project 4(0+4)

Research project in one of environmental fields .