



Master of Science Degree in Environmental Science

Prospectus 2018 / 2019



The Open University of Sri Lanka

**Centre for Environmental Studies and Sustainable
Development**

(CESSD)



THE OPEN UNIVERSITY OF SRI LANKA
CENTRE FOR ENVIRONMENTAL STUDIES AND SUSTAINABLE
DEVELOPMENT(CESSD)

Master of Science Degree in Environmental Science

Prospectus 2018 / 2019

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MASTER OF SCIENCE DEGREE IN ENVIRONMENTAL SCIENCES



1. Introduction

The Open University of Sri Lanka (OUSL) is one of the national universities in Sri Lanka established in 1980 under the Universities Act no. 16 of 1978. This is the only recognized university in Sri Lanka where students may pursue further education through the Open and Distance Learning (ODL) mode. The OUSL has the same legal and academic status as any other national university in Sri Lanka.

As per the public administration circular no. 16/92, dated 13.03.1992 issued by the Ministry of Public Administration, Provincial Councils and Home Affairs, the degrees awarded by the OUSL are treated as equivalent to degrees awarded by the other universities under the purview of the University Grants Commission.

The OUSL offers its own study programmes leading to certificates, advance certificates, diplomas, degree, postgraduate diplomas and postgraduate degrees. It also provides opportunities for postgraduate research degrees leading to Master of Philosophy (M.Phil.) or Doctor of Philosophy (Ph.D.).

1.1 General Description of the Programme

The Master of Science in Environmental Sciences [MSc (Env Sci)] is a programme of study offered by the OUSL. It was developed in recognition of the importance of environmental concerns in today's world. This programme was established over 2002 and is now widely recognised as a multidisciplinary and inter-faculty programme of study to train personnel in understanding environmental issues in general and tackling environmental problems at large. Environmentalists play a vital role in the protection and sustainable use of resources in nature. Students learn to address issues such as adaptation to climate change, biodiversity and sustainable energy management while focusing more attention on conservation and protection of land, water resources and natural habitats.

The MSc (Env Sci) program consists of courses from four faculties (Natural Science, Engineering Technology, Humanities and Social Sciences & Education) of the OUSL representing the multi-disciplinary nature of the programme. It is a 60 credit programme, made up of 30 credits at Level 9 and 30 credits at Level 10 (credit rating is the expression used in the OUSL to denote the "academic value" of a course).

1.2 Learning Outcomes of the Programme

The programme aims to:

- provide thorough academic knowledge about the components of environment
- make students understand the scientific principles that underpin environmental management
- give knowledge on economic, social, political and legal frameworks for proper environmental management
- provide sound training in relevant practical, investigative, research and generic skills that are sought by employers.

1.3 Admission Requirements

- A Bachelors degree with a minimum of 3 years duration from a recognised University
- An equivalent or higher qualification acceptable to the Senate of OUSL.

1.4 Duration of the Programme

This M.Sc. programme is of two (02) academic years: Level 9 and Level 10 as per Sri Lanka Qualification Frame work (SLQF).

1.5 Course Fee

Registration Fee	Rs. 1,000.00
Facility Fee	Rs. 1,500.00
Library Fee	Rs. 200.00
Practical/ Field Visits Fee	Rs. 2,300.00
Tuition Fee	Rs. 180,000.00

Total	Rs. 185,000.00
	=====

** Foreign students should be charged as follows;

Developed Countries	US\$ 160 (Per Credit)
Developing Countries	US\$ 80 (Per Credit)

1.6 Method of Delivery

Academic Committee of the Centre for Environmental Studies and Sustainable Development (CESSD) administer the Master of Science Degree in Environmental Sciences. The course is conducted in English and like all the other courses at the OUSL, the MSc (Env Sci) will also be conducted through the Open and Distance Learning (ODL) method.

Hence, in contrast to the conventional universities, there will be no formal lectures. Learning material (printed books, audios, CDs, On-line support) will be given throughout the programme and you are required to read the resources given and understand their contents by yourself, i.e. it is a self-study course, but day schools and tutor clinics will be conducted to answer any problems that may arise concerning the course material and to guide you through the printed material. Some of the courses will involve laboratory and field practicals to provide you with the skills necessary for areas of study in environmental science and also to overcome various constraints in the field of environment.

All courses will have Continuous Assessments (CA). The Overall Continuous Assessment Mark (OCAM) will decide the final evaluation of each course in the MSc (Env Sci). Furthermore, a percentage of the OCAM mark is included as part of the final Overall Mark (OM). Therefore, the CAs are as important as the final exams in the ODL mode.

1.7 Courses in the M.Sc. in Environmental Science

There are six compulsory courses at Level 9. At Level 10, there will be one core course - the final year Research Project and you will have to choose three electives from a list of elective courses to satisfy the credit requirement.

Please note that;

- *You have a choice in the number of credits that you register for each year – with a maximum limit of 30 credits and a minimum limit of 9 credits per year.*
- *You have to register all Level 9 course units before registering for Level 10 course units.*

1.8 Level 9 Courses (First year) - 30 Credits

Core Courses

Course Code	Credit Rating	Course Title
LLP9501	5	Environmental Law
DSP9502	5	Environmental Economics and Management
BYP9503	5	Environmental Pollution
MHP9504	5	Environment, Society and Development
ZYP9505	5	Understanding the Environment
ZYP9506	5	Environmental Policy Planning and Assessment

1.9 Level 10 Courses (Second Year) - 30 Credits

Core Course

Course Code	Credit Rating	Course Title
ZYPAF01	15	Research Project

Elective Courses

Course Code	Credit Rating	Course Title
ZYPA602	6	Biodiversity Conservation and Management
ZYPA303	6	Protected Area Planning & Management
ZYPA604	6	Climate Change
STPA305	3	Environmental Communication and Education
ZYPA606	6	Aquatic Resources and their Management
MHPA307	3	Philosophy of Science
NEPA308	3	Waste Management & Resource Recovery
PHPA309	3	Cleaner Production
CYPA610	6	Ecotoxicology and Pollution Management
PHPA311	3	Environmental Geology & Health

Please note that all the elective courses will not be available for students every year.

1.10 Continuous Assessments (CA) and Final Exam (FE)

The CA may include OBTs (Open Book Tests), NBTs (No Book Tests), Take-Home Assignments, Mini-projects, Spot Tests, Practical Reports and Seminar Presentations.

- OBT - A test where the student is allowed to use his/her text books or any other reading material when answering the question paper.
- NBT- A test where the student is **not** allowed to use any course material when answering the question paper.
- Final Examinations (FE) may include essay type questions

Both CAs and FEs are held at Colombo, Kandy, Matara, Jaffna, Batticaloa and Anuradhapura Regional Centres.

1.11 Day Schools / Discussion Classes / Practicals / Field Visits

Although the printed material is designed for you to learn independently, day schools are conducted from time to time to discuss problems that you may come across during your studies. Attendance at such face-to-face classes is very strongly recommended but not compulsory. These classes will be held only at the Colombo Regional Centre. However, attendance at laboratory sessions (Practicals) is compulsory for the course units with practicals. Certain field visits are also there to give students hands-on experience and attendance at those field visits are important to get a sound knowledge of the actual situations related to environmental problems.

1.12 Tutor Clinics

These are exam oriented sessions where you can discuss questions, how to answer the paper, etc., at a more personal level.

1.13 Evaluation

Your progress will be assessed continuously by means of the CA components and also at the end of the program by means of a final examination. The final overall mark (FM) and grade reflect performance at CA as well as at the final examination.

1.14 Deadlines

Timetables / schedules are given to you at the orientation program, so that you have time to plan out your activities. Therefore, no changes/postponements will be made to the deadlines set for CAs, OBTs, NBTs, mini-projects and final examination.

1.15 Add/ Drop Changes to Registered Courses

Those of you who wish to change/add/drop courses after registration will be permitted to do so subject to the following:

- (i) You will be allowed to change/add/drop courses only up to **11th February 2019**. There will be no academic or financial penalty for such changes.
- (ii) You may be allowed to drop courses, without any academic penalty, during the extended drop period up to **25th February 2019** provided the respective course work has not already begun. The fees already paid for the respective course will not be refunded. However, you will not be considered as a repeat student when you register for the said courses in the subsequent year.

- (iii) Those who drop courses after their commencement (after extended drop period) will be considered as repeat students and no refund will be made.
- (iv) For adding/dropping courses, an application should be made on a prescribed form available at the office of the CESSD. In the case of dropping courses, study books should first be returned to the, Dispatch Division before submitting the application form.
- (v) No refund or transfer of fees will be made in respect of those who abandon the programme after extended drop period.

1.16 Studentship Only

If you do not want to obtain courses in a particular year, you can do so by obtaining studentship only for that particular year (provided it is not the year that you first register for the courses). Studentship should usually be obtained within five months of the end of the registration period, otherwise a penalty will be payable. During the studentship, you will be able to sit examinations for courses in which you have obtained eligibility in the previous years. **It should also be noted that if a student does not renew registration within a period of five years, she/he will lose the studentship. It is mandatory that you should maintain the studentship for each year until your graduation.**

1.17 Overall Continuous Assessment Mark (OCAM)

You will be eligible to sit for the Final Examination in respect of any course in the M.Sc. (Env.Sci.) only if you have scored a minimum of 40% as the Overall Continuous Assessment Mark (OCAM). **The OCAM will be allowed to carry forward only for one more year (following year) as per the University policy.**

1.18 Repeat Students

If you are unable to obtain the required OCAM to sit the final examination for any particular course, you will have to re-register for that course in a subsequent year and will then be considered as 'repeat student' for that course. Such repeat students are required to pay the tuition fee again. They will also not be eligible for a grade higher than a mere pass (C).

Those of you, who drop courses after the program of study has begun, will be considered as repeat students. It is, therefore, in your interest to select your courses carefully so that you will not be overburdened by work.

1.19 Re-sit Candidates

Those who are eligible but unsuccessful at the final examination in the year OCAM obtained will be considered 're-sit candidates'. Such students **need not register and obtain OCAM**

for the particular course again to sit for the final exam in the following year after obtaining OCAM. Though, like repeat students, they will not be eligible for a grade higher than a mere pass (C). Re-sit candidates are not required to pay any course fee. However, if they fail to pass the final exam within two years including the year they obtained OCAM, they will have to re-register and obtain a new OCAM.

1.20 Postponement of Sitting the Final Examination

When you obtain OCAM for courses, you are given the opportunity, if you so wish, to postpone sitting the final examination to the following year without being considered as a re-sit candidate. While such postponement could be used in the event of genuine problems, you are **strongly advised not to postpone** sitting for examinations unnecessarily. Such postponements have been found to affect student performance adversely. Those who postpone sitting the final examination will be given the grade RX, but will be given the correct grade after completing the course.

1.21 Overall Mark and Grade

The overall assessment mark (Z %) of a student in respect of any course shall be based on the Overall Continuous Assessment mark (X %) and the mark obtained at the Final Examination (Y %) shall be computed as follows:

If $Y \geq 40$, then, $Z = 0.5X + 0.5Y$

If $Y < 40$, $Z=Y$

For each course, an overall Grade and a Grade Point Value will be awarded based on Z% as shown below.

Range of Marks (Z)	Overall Grade	Grade Point Value (GPV)
85-100	A ⁺	4.00
70-84	A	4.00
65-69	A ⁻	3.70
60-64	B ⁺	3.30
55-59	B	3.00
50-54	B ⁻	2.70
45-49	C ⁺	2.30
40-44	C	2.00
35-39	C ⁻	1.70
30-34	D ⁺	1.30
20-29	D	1.00
0-19	E	0.00

A⁺, A, A⁻, B⁺, B, B⁻, C⁺, C are Pass grades.

GPA is the credit-weighted arithmetic mean of the Grade Point Values obtained by a student for the total of 60 credits. GPA will be calculated to the second decimal point, subject to a maximum of 4.00, as shown in the table above. GPA will determine the Passes and Merit Passes of the M.Sc. degree.

$$\text{GPA} = \frac{\sum_i c_i g_i}{\sum_i c_i}$$

Where; c_i = Credit rating of the i^{th} course

g_i = GP value obtained for i^{th} course

2. Award of the Degree

2.1 Award of the M.Sc. in Environmental Science

A candidate will be awarded a pass in the M.Sc. programme in Environmental Science if he/she has obtained C or higher grades in all course units (60 credits); at Level 9 (All course units) & Level 10 (One compulsory and three electives).

Those who have grades (C⁻, D⁺, D, E or F) for any course unit are not considered for the award of the M.Sc. in Environmental Science.

2.2 Award of the Postgraduate Diploma in Environmental Science

The Senate can award **on application**, a Postgraduate Diploma in Environmental Science to persons having originally registered for Master of Science in Environmental Science Degree program. Such persons are eligible to opt for the Postgraduate Diploma in Environmental Science after the acquisition of 30 credits at level 9. A student who opts for the Postgraduate Diploma in Environmental Science in a particular year should request from the SAR/Exams with a copy to the Head/CESSD for such purposes on or before the date of the final examination. **However, this facility is considered as an exit point for the students who are unable to continue upto MSc (Env Sci)**

3. Student Services

3.1 Student Affairs Division

Colombo Regional Centre (CRC) maintains the personal & academic records of the OUSL students. All matters pertaining to registration of students such as change of address, civil status etc. should be immediately informed in writing to the Assistant Director/ CRC (TP: 011-2853930, Ext.380) and Senior Assistant Registrar/ Student Affairs Division (TP: 011-2823920 / 011-2881205 Ext.205), The Open University of Sri Lanka, P.O. Box 21, Nawala, Nugegoda.

Any queries relating to examinations and finance should also be directed to SAR / Student Affairs who will attend to student queries in consultation with the SAR / Examinations and Bursar respectively.

3.2 Library Facilities

You are required to do additional reading on topics covered in the study material. The main library of the university is available for this purpose at the central campus at Nawala. The library is opened seven days a week from 9:00 a.m. to 7:00 p.m. except on the OUSL holidays. Those who wish to make use of the lending facility of the library can pay a refundable deposit of Rs 1000/= and obtain two library cards. A heavy fine is payable for not returning books on the given date.

3.3 Temporary Residence Facilities (TRF)

Facilities are available for overnight stay (during practical sessions and examinations) at the Temporary Residential Facility in the Central Campus, Nawala for those who reside out of Colombo. You will need to apply on the prescribed application form for such facilities. The application form can be collected from the Assistant Registrar of the Faculty or from the reception desk at the Residential Facility and has to be certified by the relevant academic staff member prior to using this facility.

3.4 Regional Services

The University has a network of Regional/Study Centres distributed throughout Sri Lanka. These centres provide facilities for distribution of course materials, limited reference libraries and examination centres. The Regional Centres are based at Colombo (Nawala, Nugegoda), Kandy (Polgolla), Matara (Nupe), Anuradhapura, Batticaloa, Kurunegala, Badulla, Ratnapura and Jaffna. However, All CA tests (OBTs & NBTs) & Final Examinations in the MSc (Env Sci) program are only held at Colombo, Kandy, Matara, Anuradapura, Baticaloa and Jaffna Regional Centres.

4. Academic Committee of the Centre for Environmental Studies and Sustainable Development (CESSD)

An academic committee has been set up to coordinate the academic activities related to the development and delivery of the M.Sc. programme in Environmental Science while giving an interfaculty flavour to this multidisciplinary degree programme. All members in the academic committee are Senior Course Coordinators of this programme.

4.1 Course Coordinators

Name & Department	Faculty	Course	Telephone No.
Dr.U.K.G.K. Padmalal Department of Zoology	Natural Sciences	ZYP9506 ZYPA303 ZYPA602 ZYPA604 ZYPAF01	0112881475 ukpad@ou.ac.lk ukpadmalal@gmail.com
Dr. N.Nilakarawasam Department of Zoology	Natural Sciences	ZYPA606	0112881018 nnila@ou.ac.lk
Ms. W.A.Y. Chandrani Department of Zoology	Natural Sciences	ZYP9505	0112881446 wacha@ou.ac.lk
Dr. T. K. Weerasinghe Department of Botany	Natural Sciences	BYP9503	011 2881456 tkwee@ou.ac.lk
Prof. C. Gunaratne Department of Legal Studies	Humanities & Social Sciences	LLP9501	0112881432 cgune@ou.ac.lk
Ms. Dulanii Liyanahetti Department of Social Studies	Humanities & Social Sciences	DSP9502	0112881534 ddlly@ou.ac.lk
Mr. B.D. Witharana Department of Maths & Philosophy of Engineering	Engineering Technology	MHP9504	0112881441 bdwit@ou.ac.lk
Mr. J.A.D.F.M. Jayathillake Department of Maths & Philosophy of Engineering	Engineering Technology	MHPA307	0112881109 jajay@ou.ac.lk
Prof. G.W.A.R. Fernando Department of Physics	Natural Sciences	PHPA309 PHPA311	0112881451 gwfer@ou.ac.lk
Mrs. B.G.H. Anuruddhika Department of Special Needs	Education	STPA305	0112881492 bganu@ou.ac.lk
Mrs. M. Thayaparan Department of Chemistry	Natural Sciences	CYPA610	0112881304 mthay@ou.ac.lk

5. Staff Members of the CESSD

Head

Dr. (Mrs.) T.K. Weerasinghe

Senior Lecturer in Botany

Faulty of Natural Sciences

Tel: 011-2881456

E-mail: tkwee@ou.ac.lk

Staff

For any academic matter, please contact

Ms. M.D.A.M. Gunarathna

Ms. J.M.K.S. Siriwadane

Tel: 011-2881423

For any administrative matter, please contact

Ms. V.G.R.P. Gunarathna

6. Contact



Centre for Environmental Studies and Sustainable Development,

The Open University of Sri Lanka,

Nawala, Nugegoda,

Sri Lanka.

Tel: 011-2881423

E-mail : esu@ou.ac.lk

Web Site: www.ou.ac.lk/visit/cessd

IF YOU HAVE ANY DOUBT CONCERNING THE M.SC. (ENV.SCI.) PROGRAMME OR A PARTICULAR COURSE, PLEASE CONTACT THE HEAD / CENTRE FOR ENVIRONMENTAL STUDIES AND SUSTAINABLE DEVELOPMENT OR COORDINATOR OF THE RESPECTIVE COURSE.

7. Course Description

7.1 Level 9 - Core Courses

LLP9501- Environmental Law

The Development of Environmental Law; Principles and Concepts of Environmental Law; Introduction to the National Environment Act; Environmental Impact Assessment; Pollution Control - Statute Law; Public Nuisance - Procedural Issues & Substantive Issues; Protection of Natural and Cultural Heritage; Conservation of Biological Diversity - International Conventions & Sri Lankan Law; Protection of Coastal and Marine Areas.

DSP9502 - Environmental Economics & Management

Principles of Economics; Production Possibilities Frontier and Its Application; The Economy and The Natural Environment; The Model of Demand & Supply; Market Equilibrium; Approaches to Environmental Economics; The Economic Process & The Assimilative Capacity of the Natural Environment; Externalities; Basic Concepts of Economic Value; Economic Valuation of Natural Resources; Environmental Valuation: Hedonic Pricing Method and Travel Cost Method; Environmental Valuation: Contingent Valuation Method; Cost-Benefit Analysis in Environmental Decision-Making; Cost-Benefit-Analysis: Advantages and Disadvantages; Applying Economic Instruments to Environmental Problems in Developing Countries; Economics of Solid Waste Management in Developing Countries; Environmental Accounting; Green Growth: Why It Matters for Developing Countries.

BYP9503 - Environmental Pollution

Air Pollution; Effects of Air Pollution; Effects of Acid Deposition, Global Warming & Ozone Depletion; Water Pollution; Water Pollution & Public Health; Impacts of Water Pollution; Types and Impacts of Land Degradation; Soil Improvement; Pollution Monitoring; Water Treatment for Domestic and Industrial Use; Treatment of Wastewater: Advanced Wastewater Treatment; Solid Waste Management; Alternative Waste Management Techniques- Recycling; Nature & Sources of Hazardous Waste; Hazardous Waste Management; Air Pollution From Vehicles, Power Plants & Industries ; Air Pollution Status in Sri Lanka.

MHP9504 - Environment, Society & Development

Introduction; Evolution of the Development Debate Since The End of 2nd World War; Overview: Gender Critique of Development and Development as a Discourse; Traditional Versus Modern: Knowledge For a Sustainable World; Environmental Ethics and Aesthetics; Consumerist Society and Environment; Mega Projects and the Environment; Energy and Environment; Unforeseen Problems of Green Revolution and Alternative Farming; Biotechnology and Bio-Politics; People's Movements; Mini Project.

ZYP9505 - Understanding the Environment

Introduction to the Environment; Living Component of The Environment - Living organisms, Characteristics, Structure, Life processes, Origin on Earth, Distribution & Environmental Conditions Affecting Distribution & Abundance, Naming & Classifying Organisms; Non-Living Component of The Environment - Lithosphere: History of The Earth, Structure and Composition of the Earth, Introduction to Rock Forming Minerals, Rocks & Rock Cycle, Weathering & Formation of Landforms, Formation & Properties of Soils, Atmosphere: Atmospheric Processes, Climate & Weather; Hydrosphere: Introduction to Hydrosphere, Surface Water Resources, Ground Water Resources, Water Resources in Sri Lanka, Utilization of water resources, Water Laws & State Policy; Ecosystems and Functioning - Energy Flow, Nutrient Cycling, Species Diversity, Types of Ecosystems; Populations and Communities- Populations & Their Properties, Population Dynamics, Population Interaction, Competition & Concept of Niche of a Population, Community Characteristics, Community Change, Biological Structure & Community Stability.

ZYP9506 - Environmental Policy Planning & Assessment

Environmental Issues; Causes of Environmental Degradation; Global Environmental Strategy, International institutions; Environmental policy, Environmental policy development in Sri Lanka; National conservation strategy; National environmental action plan; National policies on various environmental aspects; Planning; Environmental impact assessment procedures.

7.2 Level 10 - Core Courses

ZYPAF01 - Research Project

One year duration; should be in the field of Environmental Sciences; you need to select the research topic and the supervisor depending on your chosen area of interest; a proposal on the research should be approved by the University; total cost of the research should be borne by the student; a thesis should be submitted for evaluation of the research; you need to face a *viva voce* to defend your thesis.

7.3 Level 10 - Elective Courses

ZYPA602 - Biodiversity Conservation & Management

Introduction to Biological Diversity; Biodiversity of the World; Biodiversity of Sri Lanka; Value of Biodiversity; Ethics, Economics and Biological Diversity; Factors that Contribute to Erosion of Biodiversity; Conserving Biodiversity; In-situ and Ex-situ Conservation; International and National Instruments for Conserving Biodiversity; Information Needed to Conserve Biodiversity; Case Studies- Mahaweli Ganga Development Programme; Protected Area System in Sri Lanka.

ZYPA303 - Protected Area Planning & Management

Modern Concepts of Protected Areas; Basis for Establishing Protected Areas; Categories of Protected Areas; Planning of Protected Areas; Managing Protected Areas; Managing Rare and Endangered Species; Protected Areas and Local People; Buffer Zones; Wildlife Management; Wildlife Technique; Inventory and Monitoring; Wildlife Management Tools; Communication and Public Relations; Park Interpretation.

ZYPA604 - Climate Change

Introduction to Climate; Climate Variability; Natural greenhouse effect; Emission of Greenhouse Gases; Global Warming; Climate Change Projections; Impacts of Climate Change; Mitigation of Climate Change; Vulnerability Assessments; Adaptation to Climate Change; UN Convention and Protocol.

STPA305 - Environmental Communication & Education

What is Environmental Education?; Why we need environmental education?; Environmental education in Sri Lankan context; Challenges of environmental education; How to develop your skills to become a good communicator of environmental education; Changing our mind (attitudes and ethics, special reference to Sri Lanka); Different methodologies of environmental education; Environmental educational research

ZYPA606 - Aquatic Resources & Their Management

Fresh Water Resources & Their Management - Structure of Lentic Waters, Chemical Nature & Role of Nutrients in Lentic Waters, Running Waters, Ground Water, Wetlands, Water Resources Management; Aquatic Resources in Coastal Environment - Characteristics of Coastal Zone, Types of Coastal Ecosystems, Coral Reefs in Sri Lanka, Case Studies on The Interactions Between Man & Wetland Resources, Marine Fishery Resources in Sri Lanka, Resources in Brackish & Shallow Coastal Waters in Sri Lanka; Management of Coastal Resources - Environmental Issues in Coastal Zone of Sri Lanka, Issues in Relation to Incompatible Coastal Resource Uses, Coastal Erosion & Management Programmes, Mangroves & Their Management Problems, Environmental Problems in Relation to Coral Reef Management, Environmental Education for Coastal Resources Management, Problems of Coastal Ecosystems & Management Procedures, Evolution of Legislation for Coastal One Management in Sri Lanka, Pollution in the Coastal Region & its Management.

MHPA307 - Philosophy of Science

Philosophy of Science; Historical Introduction; Methodologies of Science Proposed by Philosophers; Francis Bacons 's Method of Inductivism; Galileo's Method of Hypothetico -

Deductivism; Logical Positivists' Method of Verificationism; Karl Popper's Method of Falsificationism; Thomas Kuhn's Description of the Process of Science - Paradigms, Scientific Community; Paul Feyerabend's Description of Science -Incommensurability, Diversity of Knowledge Systems; Critiques of Modern Science, Some Contemporary Debates in Philosophy of Science.

NEPA308 - Waste Management & Resource Recovery

Introduction to Waste Management; Solid Waste Characteristics; Source Separation, Collection, Transfer and Transport; Recycling, Composting of Solid Waste; Sanitary Landfilling; Incineration and Energy Recovery; Introduction to Hazardous Waste and Characterization; Hazardous Waste Regulations and International Conventions; Treatment of Hazardous Waste; Waste and Climate Change; Waste Management Strategy Development; Management of Hazardous Waste and e-Waste; Rs-Moving Towards Zero Waste; Cleaner Production Concepts and Applications; Cleaner Production Assessment and Implementation.

PHPA309 - Cleaner Production

Resource Depletion & Global Environmental Issues; Environmental Time Line & Agenda for Sustainable Development; Cleaner Production and its Advantages; Production Getting Started a Cleaner Production Assessments; Cleaner Production (CP) Process Flow Diagrams; Quantification of Resource flows - Data Collection; In-situ measurements; Material Balance; Costing of Resource Flows; Generation of CP Options Based on Waste Causes & CP Techniques; Screening & Feasibility Analysis of CP Options; Implementation & Sustaining of CP; Other Concepts for Achievement of Sustainable Development.

CYPA610 - Ecotoxicology & Pollution Management

Introduction to Ecotoxicology; Toxicity and its mechanism; Biological, health effects and toxokinetics; Chemical toxicity; Risk Assessment and pollution management; Occupational and Industrial Toxicology; Environmental Law related to toxicology and standards

PHPA311 - Environmental Geology & Health

Fundamental Concepts of Biogeochemical Cycles - Processes Controlling Biogeochemical Cycles; Anthropogenic Impacts on Biogeochemical Cycles; Mobility of Metals in Geologic Environment; Significance of Enrichment in Major Elements; Trace Elements and Heavy Metals and its Geological Impact; Impact on the Environment by Overusing the Resources; Develop the Necessary Practical Skills to Tackle Environmental Geological Problems on the Local Scale - Geologic Factors Affecting on Land Degradation; Landslides; Soil Erosion; Gem Mining; Rock Quarrying; Sand Mining and Hydropower; Geological Problems Associated with Unplanned Urban Growth; Land Reclamation; Land - Use Planning; Town planning; Effect of Asbestos and Its Impacts; Acid Sulphate Soils and Its Impacts in Environment; Water-Borne Diseases; Chronic Renal Failure; Urbanization and Diseases.

8. Contact Details of Regional Centres

Centre	Code	Address (Telephone)
The Open University Regional Centres (OURC)		
Colombo	WP10	P.O. Box 21, Nawala, Nugegoda. (011-2853930)
Jaffna	NP40	Browns Road, Kokuvil, Jaffna. (021-2223374)
Kandy	CP20	Polgolla, Kandy. (081-2494083, 081-2494084)
Matara	SP30	Nupe, Matara. (041-2222943)
Anuradhapura	NC50	JayanthiMawatha (Depot Area), Anuradhapura. (025-2222871)
Batticaloa	EP60	23, New Road, Batticaloa. (065-2222264)